DOCUMENT RESUME

ED 375 259 CE 067 398

AUTHOR Green, James L.
TITLE The Integration of Academics and Vocational Education. A Study for the Commonwealth.
INSTITUTION Massachusetts State Council on Vocational Education, Boston.
PUB DATE 93
NOTE 141p.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Academic Education; *Administrator Attitudes; *Articulation (Education); Change Strategies; Community Colleges; Educational Change; Educational Practices; *Educational Trends; *Integrated Curriculum; Postsecondary Education; Questionnaires; Secondary Education; State Surveys; Statewide Planning; Vocational Directors; *Vocational Education
IDENTIFIERS *Massachusetts

ABSTRACT

A study examined integration of academic and vocational education (VE) in Massachusetts. Data were collected from questionnaires completed by 88 (89%) of the 101 administrators of Massachusetts secondary and postsecondary VE programs receiving Perkins Act funds. Additional data were collected from a literature review, site visits to three high schools, and a focus group of vocational superintendents and community college presidents. It was concluded that integration is beginning to happen more frequently, but not as a result of Perkins funds. Understanding/acceptance of integration appeared better at the secondary level; however, the idea that integration could benefit all students was not being pursued at either level. Two integration steps heavily emphasized by both schools and colleges were basic skills development and tech prep. Among the study recommendations were the following: a common framework should be developed for integrating academics and VE at the secondary and postsecondary levels, integrated curricula should be developed through state-local collaboration, and ongoing professional development activities should be provided to support integration. (Thirteen figures/charts are included. Appendices constituting approximately 40% of this document include the following: preliminary/final versions of the questionnaires; 24-item bibliography; leadership dialogue membership list; and completed administrator questionnaires.) (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 375 259

Massachusetts State Council on Vocational Education

1993

THE INTEGRATION OF ACADEMICS AND VOCATIONAL EDUCATION

A Study for the Commonwealth

Prepared by

James L. Green
Executive Director

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY

J L Green

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

CE067398

BEST COPY AVAILABLE

MASSACHUSETTS STATE COUNCIL ON VOCATIONAL EDUCATION

Officers:

Gloria J. Williams, Chair
Arthur Osborn, Jr., Treasurer
Paul Bento, Secretary

Members:

Christopher Borden
Raymond Jackson
Philip W. Mason
Michael J. Murphy
Charlotte A. Scott
William J. Spring
Laura R. Studen
Albert Todesca
Roger Van Winkle

James L. Green, Executive Director
Barbara T. Marr, Executive Assistant

CONTENTS

I. Introduction **page 1**

II. Purpose of Study and Methodology **page 4**

A. Questionnaire **page 5**
B. Literature Review **page 6**
C. Site Visits **page 7**
D. Focus Group **page 9**

III. Discussion of Data **page 10**

A. Secondary School Responses **page 11**
B. Responses of State Secondary Administrator **page 17**
C. Postsecondary School Responses **page 19**
D. Responses of State Postsecondary Administrator **page 22**

IV. Conclusions **page 24**

A. Focus Group Reactions **page 25**
B. Significant Findings **page 27**

V. Recommendations **page 33**

Appendices

1. NCRVE Original Questionnaires
1A. Edited (SCOVE) Questionnaires
2. Bibliography
3. Leadership Dialogue Members
4. Completed State Secondary Administrator Questionnaire
5. Completed State Postsecondary Administrator Questionnaire
6. Complete Response Data (Available upon request)

ACKNOWLEDGEMENTS

The State Council on Vocational and Technical Education wishes to acknowledge the many institutions and individuals who contributed to this report. We are particularly grateful to all the schools and community colleges receiving Perkins grants, as well as the Massachusetts Department of Education administrators, for their responsiveness to the questionnaire.

We are very appreciative of the time and information provided us by Vincent Callaghan, Director of Occupational Education at Somerville High School, Superintendent Director Jeff Riley of New Bedford Regional Vocational Technical High School, Larry Rosenstock of the Cambridge Rindge and Latin School, and by the members of the Council's Leadership Dialogue Committee for serving as a focus group. A huge debt of gratitude to Northeastern University's Center for Labor Market Studies for compiling the survey response data and assisting us in creating graphs and tables. We would also acknowledge the National Center for Research in Vocational Education for their permission and encouragement to use their questionnaire instrument.

I also want to extend much appreciation to our former secretary Leuvet Stevens for her work in typing and helping to compile the report. Of course this work could not have been properly completed without the invaluable contributions of my assistant Barbara T. Marr. Finally, I want to express my personal thanks to the members of the State Council who advocated the undertaking of this study and who have been supportive of its findings and recommendations.

I. INTRODUCTION

The Massachusetts State Council on Vocational Education, in keeping with past practice, has focused on a key element of the Perkins Vocational and Applied Technology Education Act for its biennial evaluation. The Council chose to examine the integration of academic and vocational education in determining the "adequacy and effectiveness of the vocational education program delivery system assisted under the Act in achieving the purposes of the Act."[1]

The Council's decision to examine integration was driven by its belief that academic and vocational integration is among the most promising routes to "developing more fully the academic and occupational skills of all segments of the population."[2] This investigation also supports the Council's goal of establishing the expansion of high quality school to work programs throughout the state's secondary and postsecondary public education systems.

The Council has followed closely the impressive work in the area of academic and vocational integration undertaken by the Southern Regional Education Board (SREB) and the National Center for Research in Vocational Education (NCRVE). The work of the Southern Regional Education Board and the research activities of the National Center have been reviewed through document analysis and seminars sponsored by the Massachusetts State Council on Vocational Education and the Massachusetts Department of Education. Both Gene Bottoms, Director of the SREB, and Norton Grubb, researcher for the NCRVE, have led programs in the state to inform Council members and educators in general about their experiences with integration.

We find compelling Gene Bottoms' views that "an integrated curriculum requires students to become familiar with ways to use academic knowledge to perform tasks and solve problems within a business or technical field" and that "applied learning methods become a significant factor in accomplishing this by giving students an experiential base on which to retain valuable knowledge and

---

[1]Carl D. Perkins Vocational And Applied Technology Act of 1990--Sec. 112. (10)(A)(ii)
[2]Ibid - Section 2 - Statement of Purpose

procedures."[3] We are also in agreement with Grubb and Kraskouskas' belief that "integration of academic and vocational education can help bridge the distinct 'islands' of activity within community colleges providing a way of moving toward a true community of learners."[4]

Additionally, the Council has long been an advocate for wider use of the vocational pedagogy of experiential learning. As such we were impressed by the manner in which Perkins built on research and work already in progress and that it viewed integration and applied learning as interrelated. This led the Council to interpret its introduction as the most crucial element of the new Perkins law. We understand it as indicating that Congress intended to use an expansion of applied learning generated by the integration of academics and vocational education as a key strategy for reforming secondary and postsecondary education.

Integration will also be needed to meet new state efforts to improve school to work transitions. With recently enacted state education reform legislation eliminating the general track, programs which combine academics and vocational/technical education will be expected to take its place. It is, therefore, the Council's belief that fulfilling its Perkins evaluation mandate by focusing on integration can best serve the state's pressing need to improve the preparation of students for work and continued learning.

Two significant papers were largely responsible for determining the design of the study. We became increasingly interested in the definitional and implementation issues concerning integration through analyzing *The Cunning Hand, The Cultured Mind: Models for Integrating Vocational And Academic Education*.[5] In addition, the *Working Paper---Assessing The Integration of Academic And Vocational Education; Methods And Questions*[6] raised other

---

[3] *Vocational Education Journal.* Nov./Dec. 1992. Vol. 67. No. 8. "Closing the Gap." Gene Bottoms. p70.

[4] *Vocational Education Journal.* Feb. 1993. Vol. 68. No. 2. "Building Bridges." W. Norton Grubb and Ellen Kraskouskas. p24.

[5] *The Cunning Hand, The Cultured Mind: Models for Integrating Vocational and Academic Education.* Grubb, Davis, Lum, Plihal and Morgaine. NCRVE; University of California at Berkeley. July 1991.

[6] *Working Paper: Assessing The Integration of Academic and Vocational Education; Methods and Question.* Grubb. NCRVE; University of California at Berkeley. August 1991.

important issues about both secondary and postsecondary vocational education. Through reflecting on these documents we became concerned, that despite state level interest and a number of promising local efforts, integration was not well understood in the State and was sporadically practiced. We also came to understand that while applied academics is fundamental to integration initiatives, it is not by itself a definition for integration. In fact, our sense that many Massachusetts efforts to integrate appeared to be defined solely by the use of applied curriculum created a need to know the degree of absence of other additional necessary conditions for effective integration.

We concluded that although this reform was part of our vocabulary, its future in the State, despite the Perkins mandate, was unclear. As a result our attention was drawn to the research questions in Grubb's *Working Paper.*
After careful study, and permission from the NCRVE, we decided to use edited versions of the draft questionnaires provided in the document as the basic instruments for a Council study (see Appendix).

The following sections describe the purpose of the study and its methodology. They also provide a discussion of the data, conclusions, and recommendations for state policy and practice.

II. PURPOSE OF STUDY AND METHODOLOGY

Prior to the 1990 Perkins Act, Massachusetts had actively promoted applied curriculum through its Curriculum Resource Center. When the current Act was implemented this Curriculum Center was looked to as the principal resource for assisting recipients in using applied curricula as a means of approaching the integration requirement. These curricula services had a history of being supported by federal discretionary vocational funds. It was, therefore, a setback to the State's capacity for technical assistance when the new Perkins Act reduced the amount of State leadership funds available to support such services. At the same time, State and local funding for education was being severely reduced due to budget deficits and the failure to garner support for new revenue sources. These diminishing resources caused the Council to become concerned about the extent to which Perkins recipients would use their federal dollars to pursue integration and raised questions about the depth of district response to such a major reform.

In addition to the Perkins requirement, the Department of Education, in response to changes in State Vocational Education Law, had required all school districts operating State approved vocational education programs to file a plan for integrating academics and vocational education. Originally these plans were to be filed by July 1, 1992, but this date was eventually extended to January 1, 1993. Due to reorganization of the Department, this planning initiative has yet to be fully enforced or complied with, although the Department has established a new due date of September 30, 1993. This situation added to our concern over the implementation of the new Perkins mandate.

While the Council's advocacy for integration has spurred this study, its potential for implementation has dictated the specific nature of the evaluation. We feel it is necessary to determine *base line data* as to how districts interpret integration and the extent to which they perceive integration to be a factor in their programs and curricula. It is too early to conduct an evaluation on the outcomes of integration and therefore this study will make no judgments in that regard. It is, however, our goal to provide information and to make recommendations relative to its current and future status in the education of Massachusetts students.

The principal means of investigation for the study was the series of questionnaires developed by Grubb and Stasz in their *Working Paper: Assessing The Integration Of Academic And Vocational Education; Methods And Questions.*[7] We also analyzed pertinent literature and made site visits to a regional vocational high school and two comprehensive high schools. These schools, though using very different approaches, had strong commitments to integration. After the data from the survey responses was tabulated, we used the Council's ad hoc leadership committee consisting of vocational superintendents and community college presidents as a focus group for additional feedback. The following is a description of the manner in which each of these methods were applied.

A. QUESTIONNAIRE

We used modified versions of all questionnaires. Since Massachusetts is a state in which most vocational education is delivered at the secondary level, the questionnaire prepared for the state administrator for secondary vocational education and the questionnaire directed to local secondary school administrators of vocational education were largely on target, resulting in only a few questions being omitted or edited.

Postsecondary vocational education supported by Perkins funds is delivered by community colleges but administered by the agency responsible for secondary education. The community colleges offer vocational (occupational) education resulting in certificates or associate degrees. These programs fall under the governance of the Higher Education Coordinating Council. This split in program administration, and the fact that most colleges are seen as academic institutions first and not technical centers, resulted in the NCRVE questionnaires for the colleges and the state postsecondary administrator having less relevance to the Massachusetts experience. More postsecondary questions were either eliminated or edited than was the case with the secondary questionnaires (see appendix 1 for all the original and edited questionnaires).

---

[7]Ibid

Questionnaires were sent to all secondary and postsecondary recipients of Perkins funds. Out of 101 questionnaires distributed, 88 (89%) were returned. Postsecondary questionnaires were coded by size of grant. Secondary questionnaires were coded by type of school and size of grant.

Types of secondary schools included regional vocational schools, urban or town vocational schools, urban or town academic schools and academic regional schools (see Figure 1 for number of questionnaires by type of school).

The Size of grant was coded at $15,000-$50,000, $50,000 to $100,000, $100,000 to $200,000, and $200,000 and above (see Figure 2 for number of questionnaires by size of grant).

The data received from these questionnaires provide the core of our base line data on the status of integration in Massachusetts.

B. LITERATURE REVIEW

The Council has been reviewing materials on the integration of academics and vocational education for several years. Among the first documents on this topic which had a major influence on the Massachusetts Council was his testimony of Charles Benson, Director, The National Center for Research in Vocational Education, before the Senate Subcommittee on Education, Arts, and Humanities concerning the reauthorization of Perkins.

Benson's testimony, *On Integrating Academic and Vocational Education*, constituted seminal thinking regarding fundamental change in Federal law and apparently had substantial impact on the final version of the current Perkins Act. A key point in this testimony was the statement that "teaching theory in a practical context appears to offer much transferability from the study of instructional modules to the solving of problems in the work place."[8] Even more compelling was Benson's assertion that:

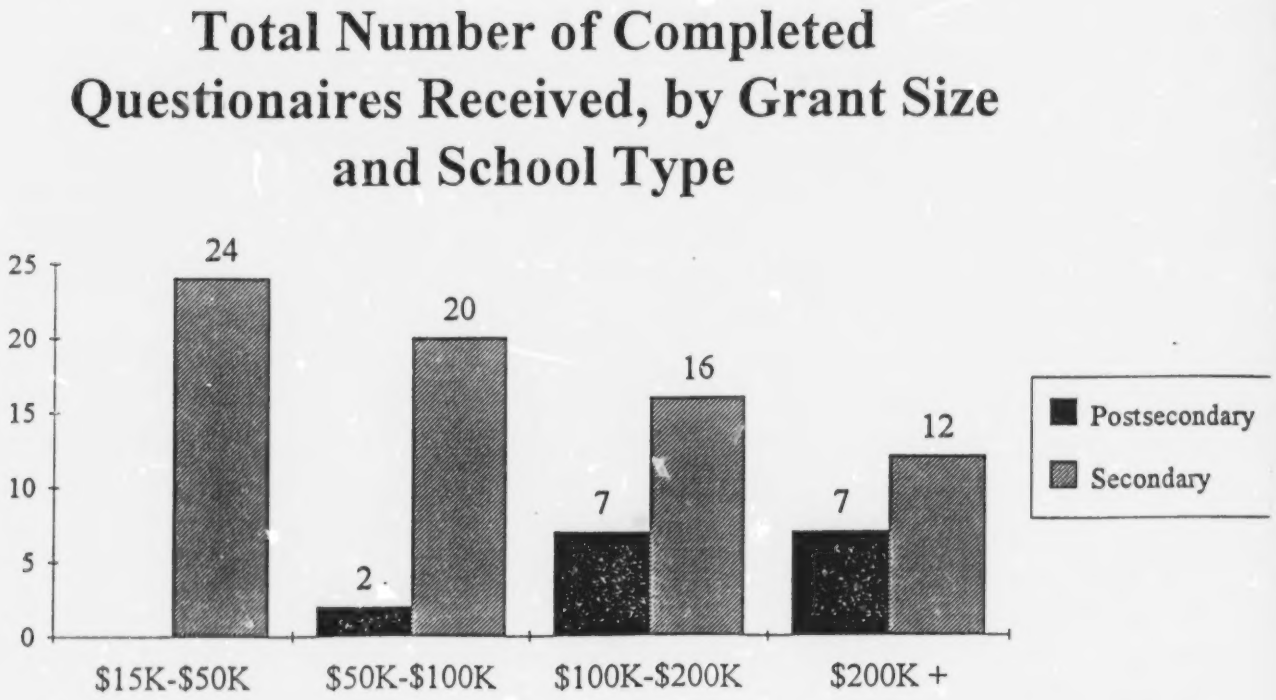
---

[8]Testimony of Charles Benson, Director, The National Center for Research in Vocational Education, before the Senate Subcommittee on Education, Arts, and Humanities. July 27, 1989

FIGURE 1

Total No. of Completed Questionaires Recvd., by Type of School		
Type of School	**Completions**	
Postsecondary	16	
Secondary	72	
Type of Secondary School		
Regional Voc. Sch.	28	
Urban/Town Voc. Sch.	11	
Urban/Town and Regional Ac. Sch.	33	

FIGURE 2



> The integration of academic and vocational education, if it is taken seriously, will be a more profound kind of reform of our schools than we have seen in decades. The reform efforts of the 1980s hardly touched the nature of the high school curriculum, nor did they produce effective changes in the ways that teachers teach and students learn. Integration of academic and vocational content is a direct challenge to the structure of the curriculum and, if it is successfully implemented, will lead to fundamental departures from conventional practices of instruction.[9]

The principal documents reviewed for this study are listed in the Bibliography (Appendix 2). To a large extent these documents were publications of the National Center for Research in Vocational Education.

Other major sources included:

1.. Studies and reports of the Southern Regional Education Board

2. Reports from the National Center on Education and the Economy

3. The *Vocational Education Journal*

C. SITE VISITS

Massachusetts has two urban high schools which have pursued integration creatively and aggressively. We visited both of these schools. We also visited a more traditional regional vocational high school which had its own conception of integration along with an impressive history of student achievement.

Somerville High School of Somerville, Mass., was one of ten sites chosen by the National Center for Research on Vocational Education for a five year experiment to explore ways to better integrate academics and vocational education. Somerville went through an intensive planning process before being selected and maintains an ongoing consultative and technical training relationship with the National Center.

---

[9]Ibid

The ability to review Somerville's planning effort and its initial stages of implementation were very helpful in providing a framework for analyzing our survey results. Its identification of goals, necessary changes in programs and curriculum, and enunciation of barriers to be overcome are useful for other communities to consider. We will be urging dissemination of the Somerville plan throughout the State. We would call particular attention to the following excerpt from its integration philosophy: "It is our hope that through the integrated learning endeavors we will attract many of that significant portion of students, largely without counseling, who graze over the field of lower demand offerings, many of which are totally unconnected to their major field of study."[10]

Cambridge Rindge and Latin High School of Cambridge, Mass., has also received considerable national interest due to the importance it places on integration and the manner in which it does so. The Cambridge approach provided us with yet another different and innovative framework with which to consider survey responses. The Rindge School of Technical Arts, the occupational component of the system, considers the Perkins requirement to teach *all aspects of the industry* as the key to integrating academics. The Rindge program operates under the assumption that "integrating academic skills into the vocational setting....will often ultimately fail unless the occupational skills themselves are appropriately and broadly defined."[11] The program combines school and community experiences and leads students to a thorough exploration of an industry cluster. It is ultimately based on the belief that it is necessary for students to "confront the problems of an economic enterprise, and in so doing the relevance of academic skills, occupational skills, and problem-solving becomes evident to students and staff."[12]

A third site visit was conducted at the New Bedford Regional Vocational Technical High School. This school is an impressive facility with a strong student record of both academic and occupational achievement. Integration in this school is viewed as giving equal emphasis to both academics and vocational

---

[10]Somerville High School; Integration Institute Planning Document (Draft) July 22-28, 1992
[11]Statement On Implementation Of The Perkins Act to the Mass. SCOVE; Presented by Lawrence Rosenstock, Executive Director, Rindge School of Technical Arts, Cambridge, MA; Boston, MA. April 1992
[12]Ibid

programming. Considerable attention is given to student achievement in the basic skills and the school's overall record in comparison to state-wide results.

In this school it is integral to the school's philosophy that, depending on the student and the trade being learned, a range of basic to college level academics is essential for job and career success. In addition to "emphasizing academics for all kids," strategies for integration include writing across the curriculum and the interaction of academic and vocational teachers in vocationally related academic classes.

New Bedford's view of integration does not encompass the changes being sought by Somerville and Cambridge. However, its continuing emphasis on strong academic outcomes for all students infuses an integration attitude among administrators and faculty.

D. FOCUS GROUP

The Council regularly convenes a number of dialogues which bring together key members of the education community to discuss issues of mutual interest and concern. One long-standing dialogue has involved vocational superintendents and community college presidents (see Appendix 3). The last meeting of this dialogue was organized as a focus group session for the purpose of reacting to initial data tabulated from the questionnaires. It was a particularly appropriate task since it elucidated the viewpoints of both secondary and postsecondary administrators whose institutions had received Perkins grants and who were responsible for implementing the Perkins requirements.

The varying perspectives of the participants underscored secondary and postsecondary differences in approaching both the definition and implementation of integration. The feedback also served as an important critique of the survey instrument.

III. DISCUSSION OF DATA

Local plans for grants under the new Perkins Vocational and Applied Technology Education Act were required to have an assessment of the status of integration as well as a description of "how proposed programs are integrating academic and occupational disciplines so that students participating in the program are able to achieve both academic and occupational competence."[13] When distributing planning requirements to local districts the Department of Education enclosed the following statement on integration as a guide:

> Integrated academic/vocational technical studies includes the reinforcement of academic knowledge in occupational classes and the use of occupational applications in academic classes to demonstrate theories and concepts. The purpose of this integration is to increase the student's acquisition of academic and occupational competencies and to focus learning on problem solving and critical thinking/performance skills. This integration can best be achieved through the cooperative teamwork of academic and occupational subject teachers.

Analyzing the responses of both the secondary and postsecondary questionnaires as well as those of the state administrators should begin to demonstrate the degree to which this "definition" of integration has been followed or accepted.

Through these requirements the State is indicating its commitment to integration and is attempting to ensure that local districts are aware of integration as a centerpiece of Perkins. This study will not, however, attempt to assess these local plans in terms of outcomes. As stated earlier, Massachusetts is only beginning to head down the integration road and it would be premature to attempt a quantitative or qualitative measurement of results. It is not premature, however, to attempt a determination of where local districts are in accepting the concept, defining it, and beginning its implementation. A review of this rather extensive data provides us an opportunity for such an assessment. Also, considering the data in the context of the literature review, site visits, and focus group commentary provides additional insight for conclusions and recommendations.

---

[13]Local Plan For Occupational Education; Fiscal Years 1992-1994; Massachusetts Department of Education

A. SECONDARY SCHOOL RESPONSES

These responses follow the order of questions on the survey instrument (see Appendix 1). Charts on selected data are provided in the text. A complete set of data is contained in Appendix 6, which is available to interested parties on request.

(1) Chart A indicates what steps districts report having taken from 1991-1993 to integrate vocational and academic education. The chart shows aggregate responses as well as responses by type of district and level of funding. The high degree of emphasis placed on incorporating basic skills and employability skills into vocational classes is noteworthy. This response was quite uniform for all types of schools and at all levels of funding. Only in city and town vocational schools was the provision of these skills less pronounced. Seen in this context, integration is reflective of the approach described in our observations of the New Bedford Regional Vocational/Technical School.

It is important to note the smaller overall emphasis given to the use of applied academics. Though not insubstantial, the aggregated data showing 44% of schools using state developed curricula, 52% locally modified curricula, and 60% locally developed curricula, is somewhat disappointing. Further analysis of these responses is even more revealing. Regional vocational school percentages for the three types of applied curricula are 60%, 68%, and 75%. Percentages for academic schools are only 28%, 28%, and 44%.

We also find that the higher the funding the greater the use of applied curricula. Districts funded at the lowest levels, $15,000-$50,000 and $50,000 to $100,000, report only a 20% to 30% use of State curricula and only a 30% to $40% use of curricula locally modified. Only in the use of locally developed curricula did the lower funded schools meet the average for all respondents. Districts funded at over $100,000 approached 70% in all uses of applied curricula. One interesting exception is that districts granted in excess of $200,000 used locally developed curricula at a lower rate than the average. It may be that districts receiving high levels of funding, adopted a more liberal policy toward externally purchased curricula. Other interesting responses, with

Chart A

What Steps to Integrate Academic and Vocational Education Have You Taken in Your Schooling During 1991-93 to Integrate Vocational and Academic Education?

	Aggregate		Funding Level 1		Funding Level 2	
	Yes	No	Yes	No	Yes	No
Remedial ed, learning labs, or tutoring in basic skills for voc students	67.6	32.4	58.8	41.2	75	25
Efforts to incorprate basic skills into voc classes	83.8	16.2	94.1	5.9	75	25
Efforts to incorporate employability or generic workforce skills into voc courses	77.9	22.1	70.6	29.4	70	30
Applied Academics curricula-state developed or consortia-developed	44.1	55.9	23.5	76.5	30	70
Applied Academics curricula-state-or consortia developed by modified locally	51.5	48.5	35.3	64.7	40	60
Applied Academics curricula-locally developed	60.3	39.7	58.8	41.2	60	40
Collaboration between academic and voc teachers to coordinate course content	82.4	17.6	76.5	23.5	90	10
Collaboration between academic and voc teachers to develop new curricula	69.1	30.9	64.7	35.3	70	30
Team teaching with academic and voc teachers	35.3	64.7	41.2	58.8	30	70
Development of Academies or occupationally-oriented schools within schools	4.4	95.6	5.9	94.1	0	100
Development of occupationally-oriented magnet schools or high schools	4.4	95.6	11.8	88.2	5	95
Development of occupational clusters, career paths, career tracks, or occupational "majors"	54.4	45.6	41.2	58.8	55	45
Development of guidance and counseling activities	77.9	22.1	76.5	23.5	90	10
Development of tech-prep or 2+2 programs with local post secondary institutions	75	25	35.3	64.7	85	15
Other	11.8	86.8	0	0	5	95

Chart A cont

Funding Level 3		Funding Level 4		School Type 1		School Type 2		School Type 3	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
60	40	72.7	27.3	71.4	28.6	30	70	76	24
80	20	90.9	9.1	75	25	80	20	96	4
86.7	13.3	81.8	18.2	82.1	17.9	60	40	76	24
66.7	33.3	72.7	27.3	60.7	39.3	40	60	28	72
66.7	33.3	72.7	27.3	67.9	32.1	60	40	28	72
73.3	26.7	45.5	54.5	75	25	60	40	44	56
80	20	81.8	18.2	85.7	14.3	90	10	76	24
73.3	26.7	72.7	27.3	64.3	35.7	100	0	64	36
46.7	53.3	27.3	72.7	42.9	57.1	30	70	32	68
6.7	93.3	0	100	7.1	92.9	0	100	0	100
0	100	0	100	7.1	92.9	0	100	4	96
66.7	33.3	54.5	45.5	60.7	39.3	70	30	40	60
80	20	63.6	36.4	78.6	21.4	80	20	80	20
86.7	33.3	90.9	9.1	92.9	7.1	70	30	52	48
13.3	86.7	18.2	81.8	17.9	82.1	0	100	12	84

KEY TO CHARTS

SCHOOL TYPES:
1 = Regional Vocational schools
2 = Urban/Town Vocational schools
3 = Urban/Town Comprehensive and Regional Academic schools

FUNDING LEVELS:
1 = $15K - $50K
2 = $50K - $100K
3 = $100K - $200K
4 = $200K+

little variation seen for type of school or size of grant, are the relatively high number of districts reporting one of the two forms of teacher collaboration (82% and 69%), the development of counseling activities (78%), and Tech Prep development (75%). The data also makes it abundantly clear that to date there is little Massachusetts interest in occupationally oriented academies or magnet schools.

It is important to point out that all the integration practices receiving high levels of positive response should require substantial faculty involvement and professional development. We note that these types of activities are considered essential elements of the Southern Regional Education Board's "key conditions" for integration.[14]

(2) Movement toward integration began over the same spread of years for all types of schools. Only urban and town vocational schools showed a more pronounced clustering around the years 1990 and 1991. It is of interest that almost 50% of all respondents indicated they began integration before the implementation of Perkins. More information as to how this integration was defined would be instructive.

(3) Chart B presents an interesting picture, by type of district and funding level, of the specific uses to which Perkins funds are being applied. The purchase of materials, equipment, computers, and software are the categories that stand out. Town and school vocational districts are about at the average level for this type of fund use, regional school districts generally exceed this level, and the academic schools are somewhat below. Schools receiving the lowest levels of funding make a particularly high use of Perkins funds for equipment purchases.

Of major significance is the relatively low across-the-board response on the use of funds for staff development and release time for teachers. These answers present a contradiction to responses on teacher collaboration reported in Chart A.

---

[14]*Making High Schools Work--Through Integration of Academic and Vocational Education.* SREB. Atlanta, GA. 1992. p8

Chart B

How Are You Using Your Perkins Fund?

	Aggregate		Funding Level 1		Funding Level 2	
	Yes	No	Yes	No	Yes	No
Staff development for teachers	35.3	64.7	29.4	70.6	30	70
Release time for teachers	8.8	91.2	5.9	94.1	10	90
Small class sizes	20.6	79.4	5.9	94.1	15	85
Purchase of Curriculum materials, including lab materials	61.8	38.2	64.7	35.3	60	40
Purchase of Occupationally-relevant equipment	64.7	35.3	58.8	41.2	65	35
Modify existing curriculum materials	39.7	60.3	23.5	76.5	35	65
Original curriculum development	26.5	73.5	11.8	88.2	35	65
Outside consultants for curriculum development	11.8	88.2	5.9	94.1	10	90
Purchase of occupationally-relevant equipment	51.5	48.5	47.1	52.9	55	45
Development of new and more sophisticated vocational programs	32.4	67.6	17.6	82.4	35	65
Purchase of computers, software, or curricula for learning labs or other remedial programs	50	50	52.9	47.1	45	55
Additional career counselors or guidance activities	41.2	58.8	23.5	76.5	40	60
Support of local curriculum coordinators or developers, responsible for integration	25	75	0	100	15	85
Other	22.1	77.9	17.6	82.4	30	70

KEY TO CHARTS

SCHOOL TYPES:
1 = Regional Vocational schools
2 = Urban/Town Vocational schools
3 = Urban/Town Comprehensive and Regional Academic schools

FUNDING LEVELS:
1 = $15K - $50K
2 = $50K - $100K
3 = $100K - $200K
4 = $200K +

Chart B cont

Funding Level 3		Funding Level 4		School Type 1		School Type 2		School Type 3	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
40	60	36.4	63.6	35.7	64.3	50	50	24	76
0	100	18.2	81.8	3.6	96.4	10	90	12	88
40	60	27.3	72.7	35.7	64.3	0	100	12	88
53.3	46.7	72.7	27.3	75	25	60	40	48	52
60	40	81.8	18.2	82.1	17.9	70	30	44	56
33.3	66.7	72.7	27.3	46.4	53.6	30	70	32	68
6.7	93.3	45.5	54.5	28.6	71.4	20	80	20	80
13.3	86.7	27.3	72.7	10.7	89.3	10	90	16	84
33.3	66.7	72.7	27.3	57.1	42.9	50	50	44	56
40	60	45.5	54.5	42.9	57.1	30	70	24	76
40	60	72.7	27.3	64.3	35.7	30	70	44	56
46.7	53.3	63.6	36.4	50	50	40	60	32	68
33.3	66.7	63.6	36.4	28.6	71.4	40	60	12	88
40	60	0	0	14.3	85.7	10	90	40	60

Chart B cont

Funding Level 3		Funding Level 4		School Type 1		School Type 2		School Type 3	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
40	60	36.4	63.6	35.7	64.3	50	50	24	76
0	100	18.2	81.8	3.6	96.4	10	90	12	88
40	60	27.3	72.7	35.7	64.3	0	100	12	88
53.3	46.7	72.7	27.3	75	25	60	40	48	52
60	40	81.8	18.2	82.1	17.9	70	30	44	56
33.3	66.7	72.7	27.3	46.4	53.6	30	70	32	68
6.7	93.3	45.5	54.5	28.6	71.4	20	80	20	80
13.3	86.7	27.3	72.7	10.7	89.3	10	90	16	84
33.3	66.7	72.7	27.3	57.1	42.9	50	50	44	56
40	60	45.5	54.5	42.9	57.1	30	70	24	76
40	60	72.7	27.3	64.3	35.7	30	70	44	56
46.7	53.3	63.6	36.4	50	50	40	60	32	68
33.3	66.7	63.6	36.4	28.6	71.4	40	60	12	88
40	60	0	0	14.3	85.7	10	90	40	60

(4) When staff development and release time is provided, both academic and vocational teachers are reported as equal recipients. However, in keeping with question 3 most districts did not report these practices as common. In fact, this question was one which had a high percentage of non-answers or answers indicating the question was not applicable. It should be noted that these matters receive considerable attention at the two urban high schools who were attempting major changes based on the integration of academics and vocational education.

(5) Chart C indicates how applied academic courses, if adopted, are being used. The data is shown by overall response and type of school district. In all categories the lowest use rates are reported by academic schools. This is consistent with their answers to the questions on applied curricula shown in Chart A. Overall the highest response is for the use of applied academics as part of a sequence of academic and vocational courses (52%). All other responses range from 12% to 35%. Noteworthy for the sequence question are the percentages for regional vocational schools and city/town vocational schools, 71% and 60% respectively.

(6) How applied courses are being implemented indicates that in the majority of cases they are modified to fit local programs (60%). However, the percentage of local modification is significantly less for low funded districts (41% and 50% respectively) and significantly higher for the top funding categories (67% and 90% respectively). These figures are consonant with those of both the low and high funded districts responding to the applied academic elements of question 1.

In neither question 5 nor 6 is the use of applied curricula reported as a significant replacement for general track courses.

It is interesting to note that according to Grub et al, Oregon and Washington are states in which applied academics have been used extensively, "but almost always with local modification." They state that "the applied academic

Chart C

If You Have Adopted Any of the Applied Academic Courses, How Are They Being Used?

	Aggregate				Funding Level 1				Funding Level 2			
	Yes	No	N/A	Missing	Yes	No	N/A	Missing	Yes	No	N/A	Missing
Required for voc. students	17.6	58.8	10.3	13.2	11.8	52.9	11.8	23.5	5	65	20	10
Encouraged for voc. students	30.9	45.6	10.3	13.2	29.4	35.3	11.8	23.5	35	35	20	10
Part of a sequence of academic and voc. courses	51.5	25	10.3	13.2	23.5	41.2	11.8	23.5	50	20	20	10
Electives open to all students	35.3	41.2	10.3	13.2	23.5	41.2	11.8	23.5	45	25	20	10
Courses used in place of general-track courses(general math, general science, etc.)	33.8	42.6	10.3	13.2	29.4	35.3	11.8	23.5	45	25	20	10
Remedial courses	11.8	64.7	10.3	13.2	17.6	47.1	11.8	23.5	5	65	20	10

Chart C cont

Funding Level 3				Funding Level 4				School Type 1				School Type 2				School Type 3			
Yes	No	N/A	Missing	Yes	No	N/A	Missing	Yes	No	N/A	Missing	Yes	No	N/A	Missing	Yes	No	N/A	Mis.
33.3	46.7		20	36.4	63.6			25	60.7	3.6	10.7	20	70		10	12	48	20	20
33.3	46.7		20	27.3	72.7			39.3	46.4	3.6	10.7	20	70		10	28	32	20	20
66.7	13.3		20	81.8	18.2			71.4	14.3	3.6	10.7	60	30		10	28	32	20	20
26.7	53.3		20	45.5	54.5			39.3	46.4	3.6	10.7	50	40		10	24	36	20	20
40	40		20	18.2	81.8			35.7	50	3.6	10.7	50	40		10	28	32	20	20
13.3	66.7		20	9.1	90.9			7.1	78.6	3.6	10.7	0	90		10	20	40	20	20

curricula provide a starting place of ideas for teachers to modify, but the final results look nothing like the standard curricula."[15]

(7-8) These questions tease out further information on academic and vocational instructor collaboration and team teaching as steps toward integration. When asked specifically about these activities we find that "working together closely" parallels Chart A answers in this area (79% to 82%). However, in the aggregate responses to the specific questions on joint course development and team teaching there is a decline when compared to Chart A. Course development in question 1 received a 69% positive response, while the more targeted question 8 received a 46% response. For the question on team teaching the decline in positive responses was from 35% to 25%. It is likely that the more specific the inquiry, the more informed is the response.

(9) Vocational students are the predominant group being targeted for integration. Chart D shows that 76% of all respondents targeted vocational students while targeting academic students or combinations of academic students and vocational students only received "yes" responses in the range of 10% to 39%. There was a tendency, however, for regional vocational schools to see themselves as serving all students which indicates that these schools view their academic mission as highly as their occupational mission. It is also noteworthy that only 16% of academic schools receiving Perkins grants target all students with their integration efforts.

(10) Chart E deals with the reaction of particular groups to integration efforts. Overall, the pattern of less support for integration from non-vocational sources persists. In the vocational sector administrators are more strongly supportive than academic instructors. While academic administrators are also more supportive than academic instructors, the high percentage of academic instructors who are somewhat supportive may be important in terms of integration's future prospects. Another important finding is the high level of principal support in all three types of schools. Additionally, the relatively low level of support that is attributed to students and parents needs attention. It is

---

[15] *The Cunning Hand, The Cultured Mind: Models For Integrating Vocational and Academic Education.* W. Norton Grubb et al. NCRVE. University of California at Berkeley. Berkeley, CA. July 1991

Chart D

Have You Targeted Any Particular Group of Students in Your Efforts to Integrate Vocational and Academic Education?

	Yes	No
Aggregate	60.3	39.7
Funding Level 1	52.9	47.1
Funding Level 2	75	25
Funding Level 3	33.3	66.7
Funding Level 4	63.6	36.4
School Type 1	39.3	60.7
School Type 2	70	30
School Type 3	72	28

If Yes, What Groups of Students Have You Targeted?

	Aggregate				Funding Level 1				Funding Level 2			
	Yes	No	N/A	Missing	Yes	No	N/A	Missing	Yes	No	N/A	Missing
Voc. Students	75.6	24.4			35.3	23.5	5.9	35.3	60	25		15
General-track students	26.8	73.2			11.8	47.1	5.9	35.3	30	55		15
Academic deficient students	24.4	75.6			11.8	47.1	5.9	35.3	25	60		15
Potential dropouts	31.7	68.3			0	58.8	5.9	35.5	40	45		15
Handicapped students	39	61			17.6	41.2	5.9	35.3	40	45		15
Limited English-speaking students	29.3	70.7			5.9	52.9	5.9	35.3	40	45		15
All students	31.7	68.3			17.6	41.2	5.9	35.3	25	60		15
Other	9.8	90.2			5.9	52.9	5.9	35.3	5	80		15

Chart D cont

Funding Level 3				School Type 1				School Type 2				School Type 3			
Yes	No	N/A	Missing	Yes	No	N/A	Missing	Yes	No	N/A	Missing	Yes	No	N/A	Missing
26.7	33.3		40	32.1	32.1		35.7	60	10		30	60	20	4	16
20	40		40	3.6	60.7		35.7	20	50		30	36	44	4	16
67	53.3		40	7	57.1		35.7		70		30	28	52	4	16
13.3	46.7		40	10.7	53.6		35.7	30	40		30	24	56	4	16
13.3	46.7		40	10.7	53.6		35.7	20	50		30	40	40	4	16
13.3	46.7		40	7.1	57.1		35.7	20	50		30	32	48	4	16
26.7	33.3		40	39.3	25		35.7	20	50		30	16	64	4	16
	60		40	3.6	60.7		35.7		70		30	8	72	4	16

Funding Level 4			
Yes	No	N/A	Missing
72.7	9.1		18.2
9.1	72.7		18.2
18.2	63.6		18.2
9.1	72.7		18.2
18.2	63.6		18.2
9.1	72.7		18.2
45.5	36.4		18.2
9.1	72.7		18.2

Chart E

In Your Efforts at Integration So Far, What Has Been the General Reaction of the Following Groups to the Integration of Academic and Vocational Education?

	Aggregate							Funding Level 1		
	Strongly Supportive	Somewhat Supportive	Neutral	Somewhat Opposed	Strongly Opposed	Missing		Strongly Supportive	Somewhat Supportive	Neutral
Vocational Instructors	36.8	48.5	4.4	5.9	0	4.4		35.3	58.8	
Academic Instructors	27.9	58.8	4.4	4.4	0	4.4		11.8	70.6	5.9
Vocational Adiminstrators	73.5	13.2	1.5	1.5	0	10.3		52.9	23.5	
Academic Adimistrators	60.3	23.5	2.9	1.5	0	11.8		52.9	41.2	
Principals	72.1	10.3	7.4	7.4	0	10.3		64.7	23.5	
State Vocational Staff	54.4	19.1	5.9	0	0	20.6		41.2	17.6	5.9
State Academic Staff	22.1	13.2	14.7	0	0	50		17.6	11.8	5.9
Vocational/Other Students	19.1	41.2	17.6	4.4	0	17.6		11.8	41.2	17.6
Parents	30.9	38.2	19.1	0	0	11.8		35.3	23.5	29.4
Business Community	57.4	19.1	10.3	0	0	13.2		64.7	11.8	17.6

Chart E cont

Funding Level 1				Funding Level 2						
Somewhat Opposed	Strongly Opposed	Missing		Strongly Supportive	Somewhat Supportive	Neutral	Somewhat Opposed	Strongly Opposed	Missing	
		5.9		25	55		15		5	
		11.8		25	50	10	10		5	
		23.5		85	5				10	
		5.9		60	15	5	5		15	
		11.8		80		10			10	
		35.3		65	10	10			15	
		64.7		35	5	15			45	
		23.5		5	45	15	10		25	
5.9										
		11.8		10	40	25			25	
		5.9		45	20	10			25	

Chart E cont

Funding Level 3						Funding Level 4					
Strongly Supportive	Somewhat Supportive	Neutral	Somewhat Opposed	Strongly Opposed	Missing	Strongly Supportive	Somewhat Supportive	Neutral	Somewhat Opposed	Strongly Opposed	Missing
46.7	46.7	6.7				54.5	36.4		9.1		
20	73.3		6.7			45.5	54.5				
80	13.3	6.7				90.9			9.1		
66.7	20	6.7			6.7	72.7	9.1				18.2
73.3	13.3	6.7			6.7	81.8		9.1			9.1
66.7	13.3	6.7			13.3	54.5	27.3				18.2
13.3	13.3	20			53.3	18.2	27.3	27.3			27.3
33.3	33.3	26.7			6.7	18.2	63.6	9.1			9.1
40	53.3	6.7				36.4	45.5	18.2			
66.7	20	6.7			6.7	54.5	36.4	9.1			

Chart E cont

School Type 1						School Type 2					
Strongly Supportive	Somewhat Supportive	Neutral	Somewhat Opposed	Strongly Opposed	Missing	Strongly Supportive	Somewhat Supportive	Neutral	Somewhat Opposed	Strongly Opposed	Missing
25	57.1	3.6	10.7		3.6	60	30		10		
25	64.3		7.1		3.6	30	70				
78.6	14.3	3.6	3.6			100					
75	14.3	3.6			7.1	40	30			30	
82.1	7.1	7.1			3.6	80				20	
71.4	10.7	3.6			14.3	50	10	10		30	
21.4	14.3	25			39.3	20	10	20		50	
10.7	39.9	25	10.7		14.3	30	40			30	
21.4	39.3	28.6			10.7	40	40			20	
50	25	14.3			10.7	60	20			20	

Chart E cont

School Type 3

Strongly Supportive	Somewhat Supportive	Neutral	Somewhat Opposed	Strongly Opposed	Missing
44	52				4
20	56	12	4		8
64	12				24
56	28	4	4		8
64	16	8			12
44	24	8			24
24	12	4			60
16	52	16			16
32	40	20			8
64	16	12			8

likely that these groups are not well informed about integration and its objectives.

Responses by *types of schools* show few significant variations from the aggregate data. Why the business community associated with regional schools is perceived to be less strongly supportive than that associated with city/town vocational schools and academic schools (50% to 60% and 64% respectively) is a finding that requires some further explanation. It will also be important to determine why 71% of regional schools feel state vocational staff is strongly supportive, but only 50% of city/town vocational schools and 44% of academic schools see them as strongly supportive. Finally, the very low perception of support from State academic staff may reflect the fact that integration as an overall priority has some ways to go.

(11) District objectives for integration were exceptionally high across all types of schools systems in regard to improving thinking skills and problem solving skills (93% regional schools; 90% city and town vocational schools; 96% academic districts). Responses were also high for improving the academic content of vocational classes and improving academic classes in a vocational program.

A major exception was the relatively low 52% response by academic schools for improving academic classes in a vocational program. The lower positive response from the academic schools to these types of questions has been a pattern seen throughout the data. It could be hypothesized that academic schools give less priority to their vocational programs. Nonetheless, all schools surveyed in this study qualified for Perkins grants and ostensibly met the requirement of providing programs that "are of such size, scope, and quality as to be effective."[16]

(12) All types of districts indicated quite strongly that they plan to continue to implement changes currently under way (regionals 64%; city and town 70%; academics 64%). There was, however, a decided drop in positive responses to

[16]Carl D. Perkins Vocational and Applied Technology Education Act of 1990; Sec 235(c)(1)(A)

developing new initiatives (regionals 57%; city and town vocational schools 40%; academics only 28%).

(13--14) Chart F illustrates by type of school and level of funding the perceived effect of integration efforts by district level policies and practices and State level policies and practices.

District policies and practices are seen predominantly as strongly or moderately encouraging for all types of schools. It is interesting that the regional districts felt they had somewhat less district support than their other vocational and academic counterparts. At lower levels of funding moderate district level encouragement was reported. Districts receiving the highest levels of funding indicated the highest degree of local encouragement.

State level policies and practices were seen as strongly or moderately helpful by an overwhelming 97% of the regional districts. While other districts reported moderate to high levels of State encouragement, the disparity between regional and other district responses is significant.

(15) Specific State practices which were considered helpful clustered around such activities as sponsoring applied academic curricula, development of other integrated curricula, workshops and technical assistance, providing competency based course content, model curriculum standards, and in-service teacher activities. These responses are quite consistent with answers given to question 1 which asked what steps districts have taken to promote integration. One anomaly is that while most districts report little teacher release time all types of districts gave a moderately high response to teacher in-service (54%, 60% and 48%).

Overall, practices seen as most helpful have to do with curricula and technical assistance. Only academic schools, responding to applied curricula questions, predictably reported this service as considerably less helpful than their vocational counterparts (79%, 80%, 48%). A long list of practices and policies which were either not mentioned or considered not applicable likely reflects the nature of state governance in Massachusetts and the priorities which the State has chosen to adopt for implementing integration.

Chart F

In Your Efforts to Integrate Academic and Vocational Education So Far, Have District-Level Policies Encouraged or Discouraged Your Efforts?

	Aggregate	F.L. 1	F.L. 2	F.L. 3	F.L. 4	S.T. 1	S.T. 2	S.T. 3
Strongly Encouraged (With money or other incentives)	33.8	29.4	10	46.7	63.6	35.7	40	28
Moderately encouraged or supported	41.2	52.9	55	33.3	9.1	32.1	40	52
Nuetral	20.6	17.6	30	13.3	18.2	28.6		20
Moderately discouraged	1.5						10	
Missing	2.9		5	6.7	9.1	3.6	10	

KEY TO CHARTS

SCHOOL TYPES:
1 = Regional Vocational schools
2 = Urban/Town Vocational schools
3 = Urban/Town Comprehensive and Regional Academic schools

FUNDING LEVELS:
1 = $15K - $50K
2 = $50K - $100K
3 = $100K - $200K
4 = $200K+

Chart F cont

In Your Efforts to Integrate Academic and Vocational Education So Far, Have State-Level Policies or Practices Encouraged or Discouraged Your Efforts?

	Aggregate	F.L. 1	F.L. 2	F.L.3	F.L. 4	S.T. 1	S.T. 2	S.T. 3
Strongly Encouraged (with money or other incentives)	44.1	41.2	40	53.3	36.4	35.7	50	48
Moderately Encouraged	38.2	35.3	40	33.3	54.5	60.7	10	28
Neutral	8.8	11.8	10		9.1		20	12
Moderately Discouraged	2.9	5.9		6.7			10	4
Strongly Discouraged	1.5		5					4
N/A	1.5	5.9						
Missing	2.9		5	6.7		3.6	10	4

(16) The majority of districts (54%) believe the State has taken no steps to promote teaching "all aspects of the industry." Only 34% of districts answered in the affirmative and 12% did not respond. This is noteworthy in view of the earlier discussion of all aspects of the industry as a key to integration in one large school district. It also underscores the importance of State level leadership in seeing that new initiatives are seriously pursued by grantees.

B. RESPONSES OF STATE SECONDARY ADMINISTRATOR

See Appendix 4 for completed State Secondary Administrator Questionnaire

According to the Department of Education, applied and integrated curricula, technical assistance, pilot projects, and tech prep were all provided to support efforts toward integration. School and college respondents also identified these activities as being supported by the State and of importance to local initiatives. The State indicates that these activities began in 1984. Schools and colleges for the most part did not see themselves as moving toward integration until the late 80's and early 90's. It is possible that institutions could have been involved in some of this work prior to the new Perkins without ascribing it to integration.

The State secondary administrator reports using approximately $180,000 from Perkins funds to support integration. The money has been used principally for the development and use of applied curricula, technical assistance, and pilot projects selected through an RFP process. Emphasis was placed on providing professional development opportunities to both academic and vocational teachers. It is the State's interpretation of Federal rules that preference in training must be given to teachers of all subjects taken by vocational/technical students.

The Department of Education has adopted a definition, or conception, of integration in planning for this reform. The many models of integration discussed by Grubb et al notwithstanding, the Department has chosen a definition which emphasizes that integration is best achieved "through cooperative teamwork of academic and occupational subject teachers." (For complete definition see paragraph 1 on page 10. This emphasis on cooperative

teamwork is elaborated upon in the NCRVE Publication: *Teacher's Roles In The Integration Of Vocational And Academic Integration* (see bibliography). It is important to note that this specific State definition is a guideline and not a rule or policy mandate. This explains the diversity of integration interpretations and practices reported by the schools and colleges in their responses to the questionnaires.

Yet, the State did set standards for local Perkins plans which directed districts to consider key elements of the integration definition which would allow a variety of program models. It is reported, however, that 25 local plans were required to be modified for having an insufficient description of how they would plan to provide an integrated vocational program. In all cases the reason given for districts having to modify was "lack of specific plans for staff development." The State was clearly being consistent, therefore, with its definitional emphasis on academic and vocational teachers needing to work cooperatively.

As for the State's view on the most common integration practices pursued by local districts, we find both congruence and variations from locally reported practices. Both State and local districts rated the incorporation of basic skills into vocational classes as the most common integration practice. However, districts stated that collaboration between academic and vocational teachers to develop new curricula was a frequent practice, while the State, although giving this activity a high priority, saw it as the least common practice. The districts view state or consortia developed applied curricula as a mid-range practice and less used than locally developed curricula, the State sees State or consortia developed curricula as the second most frequent practice and locally developed curricula as only the fifth most frequent practice.

The State's reporting on districts use of funds as opposed to local reporting on the use of funds shows several areas of divergence. The Department of Education ranked staff development of teachers, modifying existing curriculum materials, and providing release time for teachers as the three most common uses of funds. These same three practices were among the lowest ranked by local districts. In fact, release time for teachers was mentioned as a Perkins supported practice by only 9% of the districts. Conversely, the most frequently mentioned uses of funds by locals were, in descending order of rank, the

purchase of occupational equipment, purchase of curriculum and lab materials, purchase of occupationally relevant equipment and purchase of computers, software or curricula for labs or remedial programs.

Educators reported by the State as being supportive or somewhat supportive of integration were entirely from the vocational community. In fact, academic instructors and academic administrators were viewed as being somewhat opposed.

Finally, the State is planning to sponsor further initiatives to support local efforts at integration. Dissemination of applied and integrated curricula, workshops, and pilot projects are ranked highly as future activities. The secondary administrator also indicates that the promotion of "all aspects of the industry" is, and will be, pursued through the RFP process.

C. POST SECONDARY SCHOOL RESPONSES

These responses follow the order of questions on the survey instrument (see Appendix 1). Charts on selected data are provided in the text. A complete set of data is provided in Appendix 6 and is available to interested parties upon request.

Since all but two postsecondary schools received either grants of $100,000 to $200,000 or $200,000 and above, and because there is only one type of post secondary school being considered (community colleges), the *postsecondary analysis will rely only on aggregate data and certain effects of high funding levels.*

(1) Steps taken toward integration, see Chart G, show an extraordinarily high emphasis on tech prep (100%) and learning strategies for improving the basic skills of vocational students (94%). There was also considerable emphasis on providing general education to vocational students, cross-curriculum efforts, and the development of interdisciplinary courses. Initiatives taken in these latter categories were more pronounced among institutions receiving the highest level of grant award (over $200,000). For example, six institutions in this category stated they were developing applied academic courses, while only two colleges

Chart G

What Step to Integrate Vocational and Academic Education has Your Institution Taken During 1991-1993-- After the Encatment of the Perkins Amendments?

	Aggregate		Funding Level 2		Funding Level 3		Funding Level 4	
	Yes	No	Yes	No	Yes	No	Yes	No
Supporting general education for voc students	70.6	29.4	50	50	42.9	57.1	100	
Developing applied academics courses (like technical math business english, etc.)	58.8	41.2	100		28.6	71.4	75	25
Incorporating more academic content into voc courses	35.3	64.7	50	50	28.6	71.4	37.5	62.5
Developing porblem solving or "thinking skills" curricula	52.9	47.1	100		28.6	71.4	62.5	37.5
Cross-curriculum efforts (like Writing Across the Curriculum)	64.7	35.3	100		42.9	57.1	75	25
Development of "tandem courses", where students take a coordinate academic and voc course	35.3	64.7	50	50	14.3	85.7	50	50
Development of interdiscipilnary courses combining occ issues and academic disciplines (like History of Tech, Ethics in Business, Society and Tech of the Literature of work)	64.7	35.3		100	57.1	42.9	87.5	12.5
Supporting remedial/developmental educational, learning labs, tutoring and other initiatives to increase basic skills of voc students	94.1	5.9	100		85.7	14.3	100	
Development of tech-prep or 2+2 programs with local high schools	100		100		100		100	
Other	23.5	76.5		100	42.9	57.1	12.5	87.5

KEY TO CHARTS

FUNDING LEVELS:
2 = $50K - $100K
3 = $100K - $200K
4 = $200K +

receiving $100,000 to $200,000 so indicated. However, the two schools receiving the least funding did report the development of applied academics.

(2) Thirteen of the seventeen schools indicated that they began efforts to integrate between 1989 and 1992. It would certainly appear that the requirements and inducements (particularly tech prep) attached to Perkins funding provided the leverage for postsecondary institutions to adopt integration activities.

(3) A highly reported use of Perkins funds was the purchase of curriculum materials and the purchase of technology (77% of the institutions in each category). A larger percentage of colleges than secondary schools used funds for these purposes while secondary schools had a somewhat greater use of funds for occupational equipment than did the colleges (see Chart B and Chart H for comparisons on use of funds at the two educational levels). It should be noted that the high use of funds for purchasing curriculum materials is matched by a considerably lower use of funds by the colleges to modify curricula, develop original curricula, or to use consultants for curriculum development (47%; 41%; and 24% respectively).

Another significant response is the reported 82% of schools using funds for increased counseling and guidance.

(4) Only 41% of the Colleges used their Perkins funds for staff development, in-service, or for teacher release time. 12% Of the schools gave these services to vocational teachers only. One school provided them to academic teachers only.

(5) Teachers are selected to participate in integration efforts mainly through voluntary means. This is particularly true for academic teachers. Ten of the schools report that when academic instructors participate it is voluntary, while only three schools indicate that academic instructors *must* participate. Conversely, six schools indicate some degree of requirement for vocational instructors to participate. Overall the involvement of both academic and vocational instructors in integration efforts is greatest among schools with grants of $200,000+.

Chart II

How Are You Using Your Perkins Funds?

	Aggregate		Funding Level 2		Funding Level 3		Fund. L. 4	
	Yes	No	Yes	No	Yes	No	Yes	No
Staff development for teachers	41.2	58.8	50	50	28.6	71.4	50	50
Release time for teachers	47.1	52.9	50	50	28.6	71.4	62.5	37.5
Small class sizes	17.6	82.4		100	14.3	85.7	25	75
Purchase of Curriculum materials, including lab materials	76.5	23.5	50	50	57.1	42.9	100	
Modify existing curriculum materials	47.1	52.9		100	42.9	57.1	62.5	37.5
Original curriculum development	41.2	58.8	50	50	14.3	85.7	62.5	37.5
Outside consultants for curriculum development	23.5	76.5		100		100	50	50
Purchase of occupationally-relevant equipment	41.2	58.8	50	50	28.6	71.4	50	50
Development of new and more sophisticated voc programs	17.6	82.4		100	28.6	71.4	12.5	87.5
Purchase of computers, software, or curricula for learning labs or other remedial programs	76.5	23.5	50	50	57.1	42.9	100	
Additional career counselors or guidance activities	82.4	17.6	50	50	71.4	28.6	100	
Support of local curriculum coordinators or developers, responsible for integration	52.9	47.1		100	42.9	57.1	75	25
Other	23.5	76.5	100		28.6	71.4		100

KEY TO CHARTS

FUNDING LEVELS:
2 = $50K - $100K
3 = $100K - $200K
4 = $200K+

(6) 59% Of the colleges state that they have targeted particular groups of students in their efforts to integrate vocational and academic education. The data indicates that the targeting focuses on students in vocational associate degree programs (50%), students in vocational certificate programs (60%), and vocational students with deficiencies in basic skills (60%). The highest concentration of targeting to these three groups is found in the colleges who receive the highest level of funding.

(7) Chart I depicts the colleges' major objectives for their integration efforts. There is a rather wide array of outcomes that the schools would like to achieve with the assistance of integration strategies. Six objectives received a positive response of 59% to 77%. Better preparing students for employment and enhancing general education for vocational students headed the list. Schools with the highest level of funding have the highest concentration on the objectives which they hope to achieve. For example, four of seven schools receiving $100,000+ emphasize enhancing basic skills. Seven of eight schools receiving $200,000 emphasize basic skills. Similarly, two of the lower funded schools want to increase completion rates while seven of the top funded schools make completion rates an objective. Finally, five of the highest funded schools are concerned about meeting federal funding requirements, while at other funding levels only two schools report this as an objective.

(8) Chart J shows near unanimity across funding levels as to what indicators the colleges would use to determine the success or failure of integration. 88% endorse program completion rates as an indicator, 82% feel that positive feedback from employers on improved student skills should be an indicator, and 71% rate student satisfaction as an important criteria of success or failure.

(9) Ten of the colleges, 65% of those reporting, feel that the State has either moderately or strongly encouraged integration. However, with only 29% indicating strong encouragement and two institutions stating they have been discouraged, further understanding of the perceived interaction between the Department of Education and the colleges regarding integration policies and practices is needed.

Chart I

What Are Your Major Objectives for This Integration Effort?

	Aggregate		Funding Level 2		Funding Level 3			Funding Level 4	
	Yes	No	Yes	No	Yes	No	Missing	Yes	No
Increase program comletion rates	64.7	29.4	100	50	28.6	57.1	14.3	87.5	12.5
Meet Federal funding requirements	41.2	52.9	50	50	14.3	71.4	14.3	62.5	37.5
Increase demand for courses	23.5	70.6		100	28.6	57.1	14.3	25	75
Enhance general education for voc students	70.6	23.5	50	50	42.9	42.9	14.3	100	
Improve academic content of voc programs	58.8	35.3	50	50	42.9	42.9	14.3	75	25
Improve techinical content of voc programs	58.8	35.3	50	50	42.9	42.9	14.3	75	25
Better prepare students for employment	76.5	17.6	100		71.4	14.3	14.3	75	25
Develop interdisciplinary courses	35.3	58.8	50	50	42.9	42.9	14.3	25	75
Enhance students basic skills	76.5	17.6	100		57.1	28.6	14.3	87.5	12.5
Other	11.8	82.4		100	28.6	57.1	14.3		100

Chart J

What Indicators or Measures Would You Use to Judge the Success or Failure of this Project?

	Aggregate		Funding Level 2		Funding Level 3		Funding Level 4	
	Yes	No	Yes	No	Yes	No	Yes	No
Greater student demand for integrated programs	35.3	64.7		100	28.6	71.4	50	50
Increased program completion rates	88.2	11.8	100		71.4	28.6	100	
Feedback from employers that students have better skills	82.4	17.6	100		71.4	28.6	87.5	12.5
Improved placement in related occupations	47.1	52.9	50	50	57.1	42.9	37.5	62.5
Less need for remedial/developmental classes	35.3	64.7	50	50	42.9	57.1	25	75
Increased student satisfaction	70.6	29.4	50	50	71.4	28.6	75	25
Teacher satisfaction that changes improve instruction	35.3	64.7	50	50	42.9	57.1	25	75
Other	11.8	88.2		100	28.6	71.4	87.5	12.5

(10) Chart K indicates which specific state policies and practices are seen as having helped or discouraged integration efforts. Few practices are seen as significantly discouraging integration, yet there are only limited State activities which are seen as moderately helpful. Interestingly, new equipment is ranked highest (65%) and is considered encouraging by all (8) of the schools receiving the largest grant awards. Both workshops/technical assistance and pilot projects are seen by 59% of the respondents as encouraging practices. However, where the colleges again differ significantly from the secondary schools is on the importance of applied academics and other integrated curricula. Only seven of the colleges indicate that State sponsored applied curricula encourage integration and but four feel that other State developed integrated curricula would help.

(11) In response to whether the State has taken steps to promote teaching "all aspects of the industry," only four colleges (24%) answered yes. Nine colleges (53%) responded negatively. With both the secondary schools and colleges there is a gap in understanding and applying this aspect of the Perkins legislation.

D. RESPONSES OF STATE POST SECONDARY ADMINISTRATOR

See Appendix F for completed State Postsecondary Administrator Questionnaire

The Department of Education ranks the support of remedial and developmental education to increase basic skills of students as the Community Colleges' primary practice for integrating academic and vocational education. This conforms to responses from the colleges which also gave remedial and developmental education a very high ranking. The Department also mentioned cross curriculum efforts ("writing across the curriculum"), developing problem solving skills, and incorporating more academic content into vocational courses as highly used practices. While the colleges gave cross-curriculum and problem solving medium-high responses, they gave a low rating to incorporating academic content into vocational courses. Differences in how colleges see the purposes of their occupationally related programs, as opposed to how vocational schools see the purposes of their programs, may have influenced this divergence in views relative to course content.

Chart K

Which of the Following State Policies or Practices Have Been Helpful to Your Integration Efforts, and Which Have Tended to Discourage These Efforts?

	Aggregate				Funding Level 2			
	Encourage	Discourage	N/A	Missing	Encourage	Discourage	N/A	Missing
State Sponsorship of Applied Academics Curricula	35.3	5.9	52.9	5.9		50	50	
State Development of other integrated curricula	23.5	5.9	58.8	11.8		50	50	
Workshops/technical assistance about integration	58.8	5.9	23.5	11.8	50	50		
In-service activities for teachers	35.3	5.9	47.1	11.8	50	50		
Pilot Projects	58.8	5.9	29.4	5.9		50		50
Other Funding	47.1	5.9	29.4	17.6		50		50
New Equipment for integration effort	64.7	5.9	23.5	5.9		50		50
Comeptenecy-based testing requirements	23.5	23.5	35.3	17.6	50			50
Comeptenecy-based course content objectives	35.3	11.8	35.3	17.6	50		50	
Course Approval process	5.9	11.8	64.7	17.6		50	50	
State model curriculum standards for voc courses		5.9	70.6	23.5		50	50	
State definition or conception of voc ed	17.6	5.9	41.2	35.3		50		50
Other			29.4					100

Chart K cont

Funding Level 3					Funding Level 4			
Encourage	Discourage	N/A	Missing		Encourage	Discourage	N/A	Missing
57.1		28.6	14.3		25		75	
28.6		42.9	28.6		25		75	
42.9		28.6	28.6		75		25	
14.3		57.1	28.6		50		50	
57.1		42.9			75		25	
42.9		42.9	14.3		62.5		25	12.5
42.9		57.1			100			
14.3		57.1	28.6		25	50	25	
28.6		42.9	28.6		37.5	25	25	12.5
14.3		57.1	28.6			12.5	75	12.5
		57.1	42.9				87.5	12.5
		71.4	28.6		37.5		25	37.5
		57.1	42.9				12.5	87.5

There are also areas where the State ranking for how Perkins funds are being used differ from rankings given by the colleges. Using funds to reduce class size, modify existing curricula, hire outside consultants for curriculum development, and the development of new and more sophisticated vocational programs are not high on the list of how the colleges use Perkins funds. They are, however, seen by the State as highly funded activities. On the other hand, the State and the colleges agree that there is high use of funds for the purchase of curriculum and lab materials, the purchase of computers, software or curricula for labs or remedial programs, and expenditures for more counselors and guidance activity.

In terms of support for integration, it is the State's judgment that at the postsecondary level *all* the significant institutional actors are "somewhat supportive." This indicates that the Department of Education sees colleges as having no differentiation in support for integration between their academic and vocational instructors and administrators.

The State postsecondary administrator indicates that further integration initiatives are planned. They will focus on applied academics, technical assistance for teachers and administrators, pilot projects, and tech prep. Of particular note is the Department's sponsoring of a postsecondary integration conference for which a "best practices booklet" will be produced.

In general, the data gleaned from the postsecondary system is less comprehensive than that received from the secondary system. Undoubtedly this has much to do with the different missions of the secondary schools vis-a-vis the colleges. Since the colleges and their faculties resist seeing themselves, at least to some degree, as vocational institutions, they do not readily embrace the concept of integrating academic and vocational education. Additional important factors are differences in governance, state funding streams, and the fact that the preponderance of Perkins dollars flow to the secondary system. These issues will be revisited in the conclusion of this study.

IV. CONCLUSIONS

> There are so many examples of potential contributions of vocational preparation to a reborn general education, one whose academic and vocational constituents become more and more difficult to keep apart.....vocational preparation can go hand in hand with exercising young people in literacy, in being able to communicate, and, in general, in showing themselves as well-tutored, flexible, imaginative people able to cooperate. Vocational preparation is a commendable effort that does not lose any of its luster when the subject is the reformulation of general education and when the social environment and social issues occupy the agenda.[17]

The educational vision in Robert Beck's study *Vocational Preparation and General Education* expressed in the above quote is beginning to be borne out through the work of the Southern Regional Education Board. The SREB reports in *Making High Schools Work---Through Integration of Academic and Vocational Education,* that "sites that made the greatest gains in achievement also made the most progress in blending college preparatory and vocational studies."[18]

The time is at hand for Massachusetts to determine where we are in respect to all that has already been written, researched, and implemented in the area of integrating vocational and academic education. As stated at the beginning of this report, our immediate aim is to establish a body of base line information that can guide future efforts and eventually lead us to the point where an outcomes evaluation will be necessary and productive. The work of Grubb, Beck, the SREB, the NCRVE, and many others are extremely instructive. As Massachusetts finds its own way, it will be important to avail ourselves of research and programming being conducted around the country. However, the very uniqueness of our vocational system allows us to be inventive and creative in our own right. Additionally, unlike many other states, it is the vocational system which can lead in Massachusetts. The sophistication of secondary and

---

[17]Vocational Preparation and General Education. Robert H. Beck, University of Minnesota. NCRVE, University of California Berkeley. November, 1990.
[18]*Making High Schools Work: Through Integration of Academic and Vocational Education.* Southern Regional Education Board. Atlanta, GA. 1992.

postsecondary vocational education in this State, particularly in its comprehensiveness and growing use of applied academics, could allow it to pave the way for the State's academic systems to join in a partnership with the vocational schools to greatly expand the integration of academics and vocational education for all students.

To meet this goal and to develop the potential existing within our current systems will require a major commitment and some years of sustained work. The base line information developed from this study is somewhat encouraging. However, its principal value lies in the indication of tasks that must yet be undertaken in order to create truly effective integration.

A. FOCUS GROUP REACTIONS

Before discussing what the Council believes are the most important aspects of the data, a review of the opinions of the focus group will prove both revealing and instructive.

The initial reaction of the group was to critique the questionnaires used in the survey. The instruments were developed by the National Center for Research in Vocational Education to provide a series of suggested questions for the *National Assessment of Vocational Education*. This reaction of the focus group reflected the significant difference between the Massachusetts delivery system and those in most other states, as research questions were criticized for lacking relevance to the Massachusetts system. While there were certainly some questions that were not particularly applicable to the experience in this state, it was our view in choosing to use these instruments that their general scope would serve to illuminate the status of integration in Massachusetts and would provide worthwhile base line data. We believe this goal was achieved.

It was also felt by most that the questions were posed in such a way that the answers could be predicted, and secondly that the questionnaires themselves perpetuated a negative image of vocational education through their emphasis on basic skill deficiencies. A number of questions did seem to "beg" for the "right" answers and as such could be criticized for the potential of eliciting predictable responses. However, to a greater or lesser extent, this is a problem

with many questionnaires. Our expectation was that the respondents, with the assurance of confidentiality, would not simply tell us what they thought was expected or which we might want to hear. We believe this was the case and that examination of the aggregate data and data breakdowns by types of schools and levels of funding validates this position. We do, however, have some question as to the depth of thought given to the questionnaires due to the paucity of voluntary open-ended responses and the limited number of attachments that were received. However, we would temper this "criticism" by pointing to the high response rate as an indication of the seriousness accorded the survey.

Sensitivity toward the questions on basic skills are understandable due to the image problem with which vocational education struggles. But the extent to which a negative reputation exists cannot be generalized across states or types of vocational education delivery systems. Suffice it to say that in Massachusetts, with its unique vocational delivery system featuring a network of regional vocational schools, basic skills are an issue just as they are an issue in academic schools. For our purposes in this state, we prefer not to see inquiries into basic skill deficiencies as a negative, but rather as a necessary activity which is connected to the strategy of integration.

The most important outcomes of the focus group discussion were observations concerning integration as a viable strategy for secondary and/or postsecondary reform. An overarching question was whether it could be demonstrated that integration improved student performance. In this respect, it is interesting to reflect on how remote the work of the Southern Regional Education Board is to educators in this State. Although the delivery system in the SREB member states is significantly different from the Massachusetts system, the demands for educational improvement are not. The positive effects of integration initiatives on students in SREB sites cannot be dismissed and could well serve as one model for vocational and academic schools in this state to use in pursuing educational reform.

According to the focus group there is much to be overcome in order for integration to rise to the forefront. Secondary vocational administrators see a major barrier in the scheduling demands of academic and occupational courses. And the barrier is not simply course requirements but time for teachers to plan,

pursue professional development, and to begin to learn the techniques of academic/vocational team teaching. Also expressed was a reluctance to use Perkins' dollars for integration, despite the requirements of the law, due to the need to sustain other vocational programs. Traditional uses of Perkins funds for the purchase of equipment and/or other learning materials to support ongoing programs is borne out in the questionnaire data.

At the postsecondary level there was much discussion as to how institutional leaders and, most importantly, faculty view vocational certificate programs as opposed to degree programs. The colleges find it difficult to make distinctions between academic teachers and vocational teachers and as a result have more difficulty conceptualizing the concept and adopting the strategies of academic/vocational integration. This may account for the low response from the colleges on the importance of State sponsored applied academic curricula.

There is also near total consensus, as indicated in the postsecondary data, that community colleges find themselves in the "remedial business" and that developmental basic skills courses are seen by the colleges as their principal integration practice.

B. SIGNIFICANT FINDINGS

There is a general sense that integration is beginning to happen more frequently but not as a result of Perkins funds. A fundamental question then becomes, *if the use of Perkins funds is not centered on integration, is the mere existence of the integration requirement in the law a sufficient condition to move this reform into the mainstream?*

The Council believes that the data, coupled with activities taking place in a core of schools, indicates that the potential does exist for the integration of academic and vocational education to become a significant reform. This potential will be markedly enhanced when the new Massachusetts education reform act comes into play. The act references integration as a specific strategy for changing secondary education and for preparing students to make the transition from school to work.

This report is intended to accelerate the process whereby this reform strategy becomes a central feature of school change. The following are fourteen findings derived from the data and associated research. We consider them most relevant to any plan aimed at making integration effective.

1. With limited resources, the State has been effective in communicating both the integration requirement within Perkins and the State's interest in establishing integration as a reform goal. It has done this for a number of years through its efforts to introduce applied academic curriculum into secondary schools. More recently, through an aggressive introduction of Tech Prep, it has brought about increased involvement with integration at both the secondary and postsecondary levels.

2. There are several significant disparities between state and school district community college reporting on how Perkins funds are being used as well as the most commonly used integration practices. This is in part due to the secondary and post-secondary administrator analyzing the use of funds only in respect to integration practices.

3. The state definition of integration, disseminated for purposes of local plan development, is laudable, but the extent to which it has been adopted as local practice is as yet minimal.

[For further insights on a State's role see Bibliography for *Integrating Academic And Vocational Education: Issues in Implementing the Carl Perkins Amendments Of 1990.* This working paper, by Norton Grubb for the NCRVE, anticipates a number of the issues developed by this survey.]

4. Secondary and postsecondary institutions have different approaches to conceptualizing integration. This is in large part due to differences in governance and institutional mission. The State definition of integration, provided to assist local plan development, is currently more adaptable to secondary schools. There is more understanding and acceptance of the concept among secondary schools than exists at the colleges.

5. The idea that the integration of academics and vocational education could benefit all students, academic as well as vocational, is not pursued at either the secondary or postsecondary level. Students targeted for integration practices are largely vocational as reported by both the colleges and schools. It is particularly notable that the academic secondary schools also report only targeting their vocational students. This situation may be understandable due to the Perkins Act being the source of the requirement, it has been the expectation that Perkins reforms would have an impact on entire systems.

6. There are two integration steps where both schools and colleges place heavy emphasis. These are the development of basic skills, or remedial/developmental education, and the implementation of tech prep. In the case of the colleges, these two steps represent nearly the total integration pursuit.

The findings suggest that both levels need to implement integration in ways that best fit the goals of their institutions. But the findings also indicate that the schools and colleges need to establish common principles for integration and that each level can contribute to the other in the development of integration practices.

"We believe that integration promotes rethinking of educational conventions.... Currently, however, integration is impeded by the very traditions it attempts to change.... The sites noted the need for increasing remediation of entering students.... As integration becomes more widespread, higher grade level schools may begin to demand more preparation of students by lower grade levels."[19]

"A final advantage of integrating occupational and academic integration is also the loftiest: integration can help bridge the distinct 'islands' of activity within the community college as archipelago. The notion of pursuing integration wherever it is pedagogically appropriate is one way of preventing community colleges from being expedient collections of different purposes, with transfer,

---

[19]*Integrating Academic And Vocational Education: Lessons From Eight Early Innovators.* p73. Bodily et al. Rand for the NCRVE: University of California at Berkeley. December 1992

vocational, remedial, community service, and economic development missions coexisting but not interacting or reinforcing one another."[20]

7. Applied curricula is considered to be widely used in Massachusetts secondary vocational programs. But survey responses indicate that it is only moderately used as an integration tool. It should be expected that if integrating academics and vocational education was currently a high priority activity, using applied academics would at least equal basic skill remediation as a practice.

8. Applied curricula is considerably more prevalent in regional vocational schools than in the other schools surveyed. Its use is particularly low in academic schools receiving vocational grants. There is, however, evidence that applied curricula utilization is connected to higher levels of federal funding. Since regional consortia are in general higher funded than most single districts, this could be one explanation for the disparity in its application between regional vocational schools and single academic districts.

"Employers have long been advocates of an applied pedagogy. They argue that learning that occurs in some functional context produces better students as well as better employees."[21]

9. Efforts toward integration have been supported by the State and pursued by selected districts prior to the current Perkins Act. We find that this activity, coupled with the increased attention spawned by the Act, is a base on which the state could build further reform.

10. Despite changes in the Perkins law intended to spur significant reform in secondary and postsecondary institutions, the data reveals that Perkins funds are not being targeted on reform activities to any significant degree. Expenditures are concentrated in the traditional categories of equipment and material purchases. This is true with both secondary and postsecondary institutions. An

---

[20] *A Time To Every Purpose: Integrating Occupational and Academic Education in Community Colleges and Technical Institutes.* p45. Grubb and Kraskouskas. NCRVE, University of California at Berkeley. September 1992.
[21] *From School-to-Work.* p19. Educational Testing Service. Princeton, New Jersey. 1990.

important exception is the high expenditure for counseling and guidance reported by the community colleges.

11. Staff development for secondary and postsecondary faculties is not a high priority use of Perkins basic grants. Combined with severe constraints on local and state funding for education, this would indicate that staff training for integration strategies is not prevalent.

"*Integration requires capacity-building investments.* Integration flourishes when states and sites support it with a full array of capacity-building investments. Most important are full support for staff development and collaboration....."[22]

12. Applied courses that *are* adopted receive a high degree of local modification. This is encouraging since it is important for local schools to fit curriculum to their needs and in so doing to become more invested in reform. Somewhat problematic is the fact that local adaptations were generally correlated with school districts receiving high levels of funding. Similarly, institutionally developed applied courses were more prevalent at highly funded community colleges. New resources appear to significantly influence the degree of curricula modification and development at the institutional level.

13. Overall the survey clearly indicates that in times of tight resources, the absence of targeted incentive funds reduces the likelihood that significant changes such as integration will be implemented.

14. Schools and colleges, despite the difficult funding choices with which they are faced, do have significant objectives which they would like to reach through integrating academics and vocational education. Across all types of secondary schools there is a very high interest in integration as a tool to improve thinking and problem solving skills. These are skills that are essential if students are to aspire to quality jobs and careers. It is encouraging that school districts are clearly alerted to the need for change to help them elevate the abilities of their students.

---

[22]*Integrating Academic and Vocational Education: Lessons From Eight Early Innovators.* p-ix. dem.

Among the community colleges a major objective to be achieved through integration is better preparation of students for employment. This implies the need to improve not only basic skills, but also higher order thinking and problem solving skills.

The survey data can be interpreted to indicate that the schools and colleges are amenable to attempting new strategies if resources are provided and time is allowed for each district and each institution to conceptualize and then actualize integration in ways that meet their unique situations.

15. "All aspects of the industry" is not widely understood in this State. As yet, there is little evidence of State or local priorities to implement this feature of the law.

16. There is little parental knowledge of the opportunities for their children inherent in strategies such as the integration of academics and vocational education. Such new initiatives need to be communicated beyond the walls of the school.

V. RECOMMENDATIONS

In this report the Massachusetts State Council on Vocational/Technical Education has clearly indicated its strong belief in the efficacy of integrating academics and vocational education. We are convinced that the education of all students, and most importantly the 75% of students who do not pursue a baccalaureate, will be significantly enhanced by this reform strategy. Additionally, integration will make the elimination of the general track more feasible and it will encourage increased use of applied learning---the pedagogy through which a majority of students learn more effectively.

The Council, therefore, commends the conversion of all the study's findings into action steps. However, the following specific recommendations are offered as deserving priority consideration.

1. The State should convene groups of secondary and postsecondary Perkins recipients to determine why institutional reporting on the uses of Perkins funds, as well as the most common integration practices, have a number of significant variations from those reported by the State. The integrity of local plans and the effectiveness of State leadership risk being weakened unless there is substantial agreement between the state and its grantees in these areas. Similarly, these groups should determine why highly ranked local integration practices are not always congruent with locally reported uses of funds.

2. A common framework should be developed for the integration of academics and vocational education within which both secondary schools and community colleges can conceptualize integration for their respective institutions. Postsecondary schools should be asked to define curriculum that is clearly occupational and to establish the legitimacy of integrating this curriculum with academics.

3. Academic schools should be vigorously exposed to applied curricula. With the elimination of the general track the use of applied curricula in academic settings will be essential. The expertise of regional vocational schools in the use of applied pedagogy should be utilized for the provision of technical assistance.

4. The State should provide continuing technical assistance to districts for the purpose providing integrated programs for all students. All districts should be made aware of the entire spectrum of strategies available for integration. They should be encouraged to adopt combinations of strategies and to give a high priority to teacher collaboration.

5. Curriculum for "all aspects of the industry" should be developed through State/Local collaboration. Emphasis should be placed on implementing "all aspects" curriculum as a unique strategy for integrating academics and vocational education. The "elements" of an industry detailed in the School to Work Opportunities Act of 1993 can serve as a basis for determining the curricula that needs to be developed.

6. A determination should be made as to how the use of Perkins funds can be directed to the major reform elements of the Act. Although understandable and allowable, it is disappointing to find the preponderance of funds being used for the same purposes as under previous legislation.

7. High funded districts were consistently more likely to be innovative and progressive in the use of their grants. Targeted funding is frequently effective in creating new learning opportunities as we have seen with the Tech Prep program. We would, therefore, urge the state to allocate funds for a competitive grant program to enhance the integration of academics and vocational education.

8. Integration cannot be effective without substantial and ongoing professional development. In order to support the implementation of any of the Council's findings and recommendations, it is essential that a coherent and long-term program of professional development be implemented with faculty in both secondary and postsecondary institutions.

While we found a great deal of activity and interest in curriculum integration, we also found a lack of clarity and precision about the purposes of and procedures for integration. We suggest that the integration of vocational and academic education will require changes in the organization of schools, instructional methods, and curricular approaches[23]

END

[23] *Integration of Vocational and Academic Education: Theory and Practice.* p35. Plihal et al. NCRVE. University of California at Berkeley. July 1992.

APPENDICES

APPENDIX 1A

NCRVE SUGGESTED QUESTIONS

I. Questionnaire to the state agency responsible for secondary vocational education.

NOTE: This agency will in most states be the single state agency that receives Perkins funds. In a few states, a postsecondary or other agency will be the single state agency.

1. Did the state education agency sponsor any initiatives to promote the integration of academic and vocational education *prior to* 1991-92 (the first year under the Perkins Amendments)?

Yes - supporting the Applied Academics curricula from CORD or AIT _____
Yes - supporting state-developed integrated curricula _____
Yes - participation in SREB consortium _____
Yes - supporting vocational Academies (schools within schools) _____
Yes - technical assistance for administrators _____
Yes - workshops for teachers _____
Yes - release time for teachers _____
Yes - pilot projects _____
Yes - support for tech-prep or 2+2 programs _____

Yes - other (please describe) _____

No _____

If yes, in what year did initiatives to promote integration begin? _____

Please describe the state's initiative in greater detail.

2. Has the state education agency sponsored any initiatives using Carl Perkins funds to promote the integration of academic and vocational education in 1991-93 — *since* the passage of the Perkins Amendments?

Yes - Applied Academics curricula from CORD or AIT _____
Yes - state-developed integrated curricula _____
Yes - participation in SREB consortium _____
Yes - supporting vocational Academies
(schools within schools) _____
Yes - technical assistance for administrators _____
Yes - workshops for teachers _____
Yes - release time for teachers _____
Yes - pilot projects _____
Yes - support for tech-prep or 2+2 programs _____
Yes - other (please describe) _____

No _____

If yes, please describe the state's initiative in greater detail.

If yes, approximately how much Perkins money was devoted to integration? $____

3. If the state has sponsored any of the Applied Academics curricula, does state policy encourage or discourage any particular use of these curricula?

Yes - encourage use for vocational students only _____
Yes - encourage use as part of a coherent sequence _____
Yes - encourage local adoption _____
Yes - encourage use to replace general-track courses _____
No - no restrictions _____

4. If your state has supported any pilot projects, please include descriptions of the pilot projects, copies of the RFP, and any other documentation.

Does the state plan to provide follow-on support to successful pilot or demonstration projects?

Yes _____
No _____

5. Has the state adopted any definition or conception of integration, either in its state plan or in other state policies related to federal or state funding?

Yes _____
No _____

If yes, please describe.

6. Does the state allow Perkins funds to be spent on academic teachers as well as vocational teachers?

Yes - both academic and vocational teachers _____
No - vocational teachers only _____

7. Has the state taken any steps to define or encourage the requirement in the Perkins Amendments that federal funds be used "in coherent sequences of courses?"

Yes _____
No _____

If yes, please describe what actions the state has taken.

8. Has the state taken any steps to encourage or promote the teaching of "all aspects of the industry" in local schools?

Yes _____
No _____

If yes, please describe what actions the state has taken.

9. Has the state adopted any other policies or initiatives other than those mentioned in question 2 – including those related to education in general (like teacher certification, graduation requirements, or model curricula) – to promote the integration of academic and vocational education?

Yes _____
No _____

If yes, please describe.

10. In your judgment, have any state policies discouraged or slowed the integration of vocational and academic education?

Yes - state graduation requirements _____
Yes - teacher certification requirements _____
Yes - course approval process _____
Yes - state model curriculum standards for vocational courses _____
Yes - state model curriculum standards for academic courses _____
Yes - competency-based requirements in vocational education _____
Yes - competency-based or mastery testing _____
Yes - common core curriculum for all students _____
Yes - tech-prep or 2+2 initiatives _____
Yes - state definition or conception of vocational education (please describe) _____
Yes - lack of state funding for vocational education _____
Yes - lack of state funding for vocational equipment _____

Yes - other (please describe) _____

No _____

13. In your experience, and based on local applications, what practices to integrate academic and vocational education are most common in your state? (Please rank order the following responses, with "1" for most common, "2" for next most common, etc. Leave a blank for practices which are not taking place in your state.)

Remedial education, learning labs, or tutoring in basic skills for vocational students _____
Efforts to incorporate basic skills into vocational classes _____
Efforts to incorporate employability or generic workforce skills into courses _____
Applied Academics curricula - state-developed or consortia-developed _____
Applied Academics curricula - state- or consortia-developed but modified locally _____
Applied Academics curricula - locally developed _____
Collaboration between academic and vocational teachers to coordinate course content _____
Collaboration between academic and vocational teachers to develop new curricula _____
Team teaching with academic and vocational teachers _____
Development of Academies or occupationally-oriented schools within schools _____
Development of occupationally-oriented magnet schools or high schools _____
Development of occupational clusters, career paths, career tracks, or occupational "majors" _____
Development of guidance and counseling activities _____
Other (please describe) _____

14. In your experience, and based on state plans, how are districts using Perkins funds? (Again, please rank order the following responses, with "1" for most common, "2" for next most common, etc. Leave a blank for practices which are not taking place in your state.)

Staff development for teachers _____
Release time for teachers _____
Small class sizes _____
Purchase of curriculum materials, including lab materials _____
Modify existing curriculum materials _____
Original curriculum development _____
Outside consultants for curriculum development _____
Purchase of occupationally-relevant equipment _____
Development of new and more sophisticated vocational programs (please describe) _____

11. Is the state currently planning to modify any of the barriers to integration mentioned in question 10? If so, please describe what changes are being discussed or planned. Please indicate yes or no for any barrier mentioned.

	Yes	No
State graduation requirements	-----	-----
Teacher certification requirements	-----	-----
Course approval process	-----	-----
State model curriculum standards for vocational courses	-----	-----
State model curriculum standards for academic courses	-----	-----
Competency-based requirements in vocational education	-----	-----
Competency-based or mastery testing	-----	-----
Common core curriculum for all students	-----	-----
Tech-prep or 2+2 initiatives	-----	-----
State definition or conception of vocational education	-----	-----
Lack of state funding for vocational education	-----	-----
Lack of state funding for vocational equipment	-----	-----
Other (please describe)	-----	-----

12. Local applications for Perkins funds are supposed to describe how they will provide a vocational program that integrates academic and occupational disciplines (in Section 240). In your review of local applications for 1991-92 or 1992-93 funds, did your state disapprove any local applications because of inadequacies in this section of the local plan?

Yes -----
No -----

If yes, how many plans were disapproved or modified? -----

If yes, what were the reasons for disapproval or disapproval

Purchase of computers, software, or curricula for learning labs or other remedial programs _____
Additional career counselors or guidance activities _____
Support of local curriculum coordinators or developers, responsible for integration _____
Other (please describe) _____

15. In your judgment, what has been the general reaction of the following groups to the integration of academic and vocational education?

	strongly supportive	somewhat supportive	neutral	somewhat opposed	strongly opposed	generally uninformed
vocational instructors						
academic instructors						
vocational administrators						
academic administrators						
principals						
state vocational staff						
state academic staff						
vocational students						
other students						
parents						
business community						

16. In the future, is the state currently planning to sponsor any further initiatives to promote the integration of academic and vocational education?

Yes - Applied Academics curricula from CORD or AIT _____
Yes - state-developed integrated curricula _____
Yes - local-developed integration curricula _____
Yes - participation in SREB consortium _____
Yes - workshops for teachers _____
Yes - release time for teachers _____
Yes - pilot projects _____

Yes - other (please describe) _____

No _____

If
yes, please describe the state's future initiative in greater detail.

II. Questions to the state postsecondary agency.

1. Has your agency sponsored any initiatives using Carl Perkins funds to promote the integration of academic and vocational education in 1991-93 - since the passage of the Perkins Amendments?

Yes - support for Applied Academics curricula from CORD or AIT ____
Yes - support for state-developed integrated curricula ____
Yes - participation in SREB consortium ____
Yes - technical assistance for administrators ____
Yes - workshops for teachers ____
Yes - release time for teachers ____
Yes - pilot projects ____
Yes – support for tech-prep or 2+2 programs ____
Yes - other (please describe) ____
No ____

If yes, please describe the state's initiative in greater detail.

If yes, approximately how much money was devoted to integration? ____

2. If your state has supported any pilot projects, please include descriptions of the pilot projects, copies of the RFP, and any other documentation.

Does the state plan to provide follow-on support to successful pilot or demonstration projects?

Yes _____
No _____

3. Has the state adopted any definition or conception of integration, either in its state plan or in other state policies related to federal or state funding?

Yes _____
No _____

If yes, please describe the state's definition.

4. Has the state taken any steps to define or encourage the requirement in the Perkins Amendments that federal funds be used "in coherent sequences or sources?"

Yes _____
No _____

If yes, please describe what actions the state has taken .

5. Has the state taken any steps to encourage or promote the teaching of "all aspects of the industry" in postsecondary institutions?

Yes _____
No _____

If yes, please describe what actions the state has taken .

6. Has the state adopted any other policies or initiatives other than those mentioned in question 1 – including those related to education in general (like teacher certification, general education requirements, or model curricula) – to promote the integration of academic and vocational education?

Yes _____
No _____

If yes, please describe.

7. In your judgment, have any state policies discouraged or slowed the integration of vocational and academic education?

Yes - state graduation requirements	_____
Yes - teacher certification requirements	_____
Yes - course approval process	_____
Yes - state model curriculum standards for vocational courses	_____
Yes - state model curriculum standards for academic courses	_____
Yes - competency-based requirements in vocational education	_____
Yes - competency-based or mastery testing	_____
Yes - common core curriculum for all students	_____
Yes - tech-prep or 2+2 initiatives	_____
Yes - state definition or conception of vocational education (please describe)	_____
Yes - lack of state funding for vocational education	_____
Yes - lack of state funding for vocational equipment	_____
Yes - other (please describe)	_____
No	_____

8. Is the state currently planning to modify any of the barriers to integration mentioned in question 7? If so, please describe what changes are being discussed or planned. Please indicate yes or no for any barrier mentioned.

	Yes	No
State graduation requirements	_____	_____
Teacher certification requirements	_____	_____
Course approval process	_____	_____
State model curriculum standards for vocational courses	_____	_____
State model curriculum standards for academic courses	_____	_____
Competency-based requirements in vocational education	_____	_____
Competency-based or mastery testing	_____	_____
Common core curriculum for all students	_____	_____
Tech-prep or 2+2 initiatives	_____	_____
State definition or conception of vocational education	_____	_____
Lack of state funding for vocational education	_____	_____
Lack of state funding for vocational equipment	_____	_____
Other (please describe)	_____	_____

9. Local applications for Perkins funds are supposed to describe how they will provide a vocational program that integrates academic and occupational disciplines (in Section 240). In your review of local applications for 1991-92 or 1992-93 funds, did your state disapprove any local applications because of inadequacies in this section of the local plan?

Yes _____
No _____

If yes, how many plans were disapproved or modified? _____

If yes, what were the reasons for disapproval ?

10. In your experience, and based on local applications, what practices to integrate academic and vocational education are most common in your state? (Please rank order the following responses, with "1" for most common, "2" for next most common, etc. Leave a blank for practices which are not taking place in your state.)

Supporting general education for vocational students _____
Developing applied academics courses (like Technical Math, Business English, etc.) _____
Incorporating more academic content into vocational courses _____
Developing problem-solving or "thinking skills" curricula _____
Cross-curriculum efforts (like Writing Across the Curriculum) _____
Development of "tandem courses," where students take a coordinated academic and vocational course _____
Development of interdisciplinary courses combining occupational issues and academic disciplines (like History of Technology, Ethics in Business, Society and Technology or The Literature of Work) _____
Supporting remedial/developmental education, learning labs, tutoring, and other initiatives to increase the basic skills of vocational students _____
Developing 2+2 or tech-prep programs with local high schools _____

Other (please describe) _____

11. In your experience, and based on state plans, how are postsecondary institutions using Perkins funds? (Again, please rank order the following responses, with "1" for most common, "2" for next most common, etc. Leave a blank for practices which are not taking place in your state.)

Staff development for teachers	_____
Release time for teachers	_____
Small class sizes	_____
Purchase of curriculum materials, including lab materials	_____
Modification of existing curriculum materials	_____
Development of original curriculum	_____
Outside consultants for curriculum development	_____
Purchase of occupationally-relevant equipment	_____
Development of new and more sophisticated vocational programs (please describe)	_____
Purchase of computers, software, or curricula for learning labs or other remedial programs	_____
Additional career counselors or guidance activities	_____
Support of local curriculum coordinators or developers, responsible for integration	_____
Other (please describe)	_____

12. In your judgment, what has been the general reaction of the following groups to the integration of academic and vocational education?

	strongly supportive	somewhat supportive	neutral	somewhat opposed	strongly opposed
vocational instructors					
academic instructors					
vocational administrators					
academic administrators					
principals					
state vocational staff					
state academic staff					
vocational students					
transfer students					
developmental students					
parents					
business community					

13. For the future, is the state currently planning to sponsor any further initiatives to promote the integration of academic and vocational education?

Yes - support for Applied Academics curricula from CORD or AIT _____
Yes - support for state-developed integrated curricula _____
Yes - participation in SREB consortium _____
Yes - technical assistance for administrators _____
Yes - workshops for teachers _____
Yes - release time for teachers _____
Yes - pilot projects _____
Yes -- support for tech-prep or 2+2 programs _____
Yes - other (please describe) _____

If yes, please describe the state's initiative in greater detail.

III. Questions to local secondary administrators.

1. What steps to integrate academic and vocational education have you taken in your school during 1991-93 to integrate vocational and academic education?

Remedial education, learning labs, or tutoring in basic skills for vocational students _____
Efforts to incorporate basic skills into vocational classes _____
Efforts to incorporate employability or generic workforce skills into vocational courses _____
Applied Academics curricula - state-developed or consortia-developed _____
Applied Academics curricula - state- or consortia-developed but modified locally _____
Applied Academics curricula - locally developed _____
Collaboration between academic and vocational teachers to coordinate course content _____
Collaboration between academic and vocational teachers to develop new curricula _____
Team teaching with academic and vocational teachers _____
Development of Academies or occupationally-oriented schools within schools _____
Development of occupationally-oriented magnet schools or high schools _____
Development of occupational clusters, career paths, career tracks, or occupational "majors" _____
Development of guidance and counseling activities _____
Development of tech-prep or 2+2 programs with local postsecondary institutions _____

Other (please describe) _____

When did you begin these changes?

In 1991, with new Perkins requirements _____
Prior to 1991 Year____ _____

2. How are you using your Perkins funds?

Staff development for teachers _____
Release time for teachers _____
Small class sizes _____
Purchase of curriculum materials, including lab materials _____
Purchase of occupationally-relevant equipment _____
Modify existing curriculum materials _____
Original curriculum development _____
Outside consultants for curriculum development _____
Purchase of occupationally-relevant equipment _____
Development of new and more sophisticated vocational programs (please describe) _____
Purchase of computers, software, or curricula for learning labs or other remedial programs _____
Additional career counselors or guidance activities _____
Support of local curriculum coordinators or developers, responsible for integration _____
Other (please describe) _____

Please include a copy of your local application for Perkins funds for 1992-93, including the description of how your vocational program integrates academic and occupational disciplines.

3. If you are spending Perkins funds for staff development, in-service, or release time for teachers, which teachers are receiving these benefits?

Vocational teachers only _____
Academic teachers only _____
Academic and Vocational teachers _____
Not applicable to my school _____

4. If you have adopted any of the Applied Academics courses, how are they being used? (Check all that apply.)

Required for vocational students _____
Encouraged of vocational students _____
Part of a sequence of academic and vocational courses _____
Electives open to all students _____
Courses used in place of general-track courses (general math, general science, etc.) _____
Remedial courses _____
Not applicable in my school _____

5. If you are using any of the Applied Academics courses, are they: (Check all that apply.)

Used by teachers as is, without modification? _____
Modified to fit local programs? _____
Taught by academically-certified teachers? _____
Taught by vocational instructors? _____
Team-taught by academic and vocational instructors? _____
Used as replacements for general-track courses? _____
Not applicable in my school _____

6. In your efforts to integrate academic and vocational education, how are teachers selected for participation?

All vocational instructors must participate _____
Vocational instructors in particular occupational areas must participate (please indicate which areas) _____
Participation by vocational instructors is voluntary _____
All academic teachers must participate _____
All academic teachers in certain subjects must participate (please indicate which subjects) _____
Participation by academic instructors is voluntary _____

7. Have academic and vocational instructors in your school worked together to develop your efforts and plans to integrate?

Yes _____
No _____

If yes, in what way?

8. Are there any courses developed in your school by academic and vocational instructors together?

Yes _____
No _____

If yes, please describe these courses.

Is there any team teaching of integrated courses in your school?

Yes _____
No _____

If yes, please describe the courses that are team taught.

9. Have you targeted any particular group of students in your efforts to integrate vocational and academic education?

Yes _____
No _____

If yes, what groups of students have you targeted?

Vocational students _____
General-track students _____
All academically deficient students _____
Potential dropouts _____
Handicapped students _____
Limited English-speaking students _____
All students _____
Other (please describe) _____

10. In your efforts at integration so far, what has been the general reaction of the following groups to the integration of academic and vocational education?

	strongly supportive	somewhat supportive	neutral	somewhat opposed	strongly opposed
vocational instructors					
academic instructors					
vocational administrators					
academic administrators					
principals					
state vocational staff					
state academic staff					
vocational students					
other students					
parents					
business community					

11. What are your major objectives for this integration effort?

Improve academic content of vocational classes _____
Improve academic classes in a vocational program _____
Permit vocational students to receive academic credit for vocational coursework _____
Improve students' thinking and problem solving skills _____
Better prepare students for employment _____
Better prepare students for district- or state-level competency tests _____
Increase graduation requirements _____
Meet federal funding requirements _____
Improve career education and choices _____
Improve technical content of vocational classes _____
Increase graduation rates _____
Increase attendance in related postsecondary programs _____

12. What indicators or measures would you use to judge the success or failure of this project?

Increased graduation rate _____
Higher test scores on district tests _____
Higher test scores on state-level tests _____
Lower absenteeism _____
Higher student engagement in classes _____
Improvement in students' thinking and problem solving skills _____
Teacher satisfaction that curriculum changes were improving instruction _____
Parent satisfaction that changes were improving instruction _____
Fewer "general math" or "general science" classes _____
Feedback from employers that students had better skills _____
A more coherent sequence of vocational courses _____
Increased attendance in postsecondary education _____

Other (please specify) _____

13. What plans do you have for any further initiatives to promote the integration of academic and vocational education?

No further plans - we're satisfied with changes already made _____
Will continue to implement the changes described in question 1 (please explain below) _____
Now developing new initiatives _____

If you are planning new initiatives, what are they?

Remedial education, learning labs, or tutoring in basic skills for vocational students _____
Efforts to incorporate basic skills into vocational classes _____
Efforts to incorporate employability or generic workforce skills into vocational courses _____
Applied Academics curricula - state-developed or consortia-developed _____
Applied Academics curricula - state- or consortia-developed but modified locally _____
Applied Academics curricula - locally developed _____
Collaboration between academic and vocational teachers to coordinate course content _____
Collaboration between academic and vocational teachers to develop new curricula _____
Team teaching with academic and vocational teachers _____
Development of Academies or occupationally-oriented schools within schools _____
Development of occupationally-oriented magnet schools or high schools _____
Development of occupational clusters, career paths, career tracks, or occupational "majors" _____
Development of guidance and counseling activities _____
Other (please describe) _____

14. In your efforts to integrate academic and vocational education so far, have district-level policies or practices encouraged or discouraged your efforts?

Strongly encouraged (with money or other incentives) _____
Moderately encouraged or supported _____
Neutral _____
Moderately discouraged _____
Strongly discouraged _____

Please describe how district policies have affected your efforts.

15. In your efforts to integrate academic and vocational education so far, have state-level policies or practices encouraged or discouraged your efforts?

Strongly encouraged (with money or other incentives)	-----
Moderately encouraged or supported	-----
Neutral	-----
Moderately discouraged	____
Strongly discouraged	-----

16. Of the following state policies or practices, which have been helpful to your integration efforts, and which have tended to discourage those efforts?

	Encourage	Discourage	N/A
State sponsorship of Applied Academics curricula	___	___	---
State development of other integrated curricula	___	___	---
Workshops/technical assistance about integration	___	---	---
In-service activities for teachers	___	---	---
Pilot projects	___	---	---
Other funding	___	---	---
New equipment for integration effort	___	---	---
Competency-based testing requirements	___	---	---
"Core" curriculum requirements for all students	___	---	---
Competency-based course content or objectives	___	---	---
Site-based management or decentralization of administration	___	---	---
State graduation requirements	___	---	---
Teacher certification requirements	___	---	---
Course approval process	___	---	---
State model curriculum standards for vocational courses	___	---	---
State definition or conception of vocational education (please describe)	___	---	---
Other (please describe)	___	---	---

17. Has the state taken any steps to define or encourage the requirement in the Perkins Amendments that federal funds be used "in coherent sequences or sources?"

Yes _____
No _____

If yes, please describe what actions the state has taken .

18. Has the state taken any steps to encourage or promote the teaching of "all aspects of the industry" in local schools?

Yes _____
No _____

If yes, please describe what actions the state has taken .

19. Has the state adopted any other policies or initiatives other than those mentioned in question 2 – including those related to education in general (like teacher certification, graduation requirements, or model curricula) – to promote the integration of academic and vocational education?

Yes _____
No _____

If yes, please describe.

IV. Questions to local administrators of postsecondary programs.

1. What steps to integrate vocational and academic education has your institution taken during 1991-93 — after the enactment of the Perkins Amendments?

Supporting general education for vocational students ____
Developing applied academics courses (like Technical Math, Business English, etc.) ____
Incorporating more academic content into vocational courses ____
Developing problem-solving or "thinking skills"curricula ____
Cross-curriculum efforts (like Writing Across the Curriculum) ____
Development of "tandem courses," where students take a coordinated academic and vocational course ____
Development of interdisciplinary courses combining occupational issues and academic disciplines (like History of Technology, Ethics in Business, Society and Technology or The Literature of Work) ____
Supporting remedial/developmental education, learning labs, tutoring, and other initiatives to increase the basic skills of vocational students ____
Developing tech prep or 2+2 programs with local high schools ____

Other (please describe) ____

Please describe your efforts to integrate academic and vocational education in greater detail.

When did you begin these changes?

In 1991, with new Perkins requirements ____
Prior to 1991 Year ____ ____

2. How are you using your Perkins funds?

Staff development for teachers ____
Release time for teachers ____
To reduce class sizes ____
Purchase of curriculum materials, including lab materials ____
Modify existing curriculum materials ____
Original curriculum development ____
Outside consultants for curriculum development ____
Purchase of occupationally-relevant equipment ____
Development of new and more sophisticated vocational programs (please describe) ____
Purchase of computers, software, or curricula for learning labs or other remedial programs ____
Additional career counselors or guidance activities ____
Support of local curriculum coordinators or developers, responsible for integration ____
Other (please describe) ____

3. If you are spending Perkins funds for staff development, in-service, or release time for teachers, which teachers are receiving these benefits?

Vocational teachers only ____
Academic teachers only ____
Academic and Vocational teachers ____
Not applicable to my school ____

4. In your efforts to integrate academic and vocational education, how are teachers selected for participation?

All vocational instructors must participate ____
Vocational instructors in particular occupational areas must participate (please indicate which areas) ____
Participation by vocational instructors is voluntary ____
All academic teachers must participate ____
All academic teachers in certain subjects must participate (please indicate which subjects) ____
Participation by academic instructors is voluntary ____

5. Have academic and vocational instructors in your institution worked together to develop your efforts and plans to integrate?

Yes _____
No _____

If yes, in what way?

6. Are there any courses developed in your institution by academic and vocational instructors together?

Yes _____
No _____

If yes, please describe these courses.

Is there any team teaching of integrated courses in your school?

Yes _____
No _____

If yes, please describe the courses that are team taught.

7. Have you targeted any particular group of students for your efforts to integrate vocational and academic education?

Yes _____
No _____

If yes, which students?

Students in vocational associate programs _____
Students in vocational certificate programs _____
Students in all vocational courses _____
All students, whether transfer or vocational _____
Vocational students with deficiencies in basic skills _____
All students with deficiencies in basic skills _____

Other (please describe) _____

9. In your efforts at integration so far, what has been the general reaction of the following groups to the integration of academic and vocational education?

	strongly supportive	somewhat supportive	neutral	somewhat opposed	strongly opposed
vocational instructors					
academic instructors					
vocational administrators					
academic administrators					
state vocational staff					
state academic staff					
vocational students					
other students					
business community					

10. What are your major objectives for this integration effort?

Increase program completion rates	-----
Meet federal funding requirements	-----
Increase demand for courses	-----
Enhance general education for vocational students	-----
Improve academic content of vocational programs	-----
Improve technical content of vocational programs	-----
Better prepare students for employment	-----
Develop interdisciplinary courses	-----
Enhance students' basic skills	-----
(Other (please describe)	-----

10. What indicators or measures would you use to judge the success or failure of this project?

Greater student demand for integrated programs _____
Increased program completion rates _____
Feedback from employers that students have better skills _____
Improved placement in related occupations _____
Less need for remedial/developmental classes _____
Increased student satisfaction _____
Teacher satisfaction that changes improve instruction _____

Other (please specify) _____

11. What plans do you have for any further initiatives to promote the integration of academic and vocational education?

No further plans - we're satisfied with changes already made _____
Will continue to implement the changes described in question 1 (please explain below) _____
Now developing new initiatives _____

If you are planning new initiatives, what are they?

Supporting general education for vocational students _____
Developing applied academics courses (like Technical Math, Business English, etc.) _____
Incorporating more academic content into vocational courses _____
Developing problem-solving or "thinking skills"curricula _____
Cross-curriculum efforts (like Writing Across the Curriculum) _____
Development of "tandem courses," where students take a coordinated academic and vocational course _____
Development of interdisciplinary courses combining occupational issues and academic disciplines (like History of Technology, Ethics in Business, Society and Technology or The Literature of Work) _____
Supporting remedial/developmental education, learning labs, tutoring, and other initiatives to increase the basic skills of vocational students _____
Developing tech prep or 2+2 programs with local high schools _____

Other (please describe) _____

12. If your institution is part of a multi-campus district, have your efforts to integrate academic and vocational education been encouraged or discouraged by district-level policies or practices?

Strongly encouraged _____
Moderately encouraged _____
Neutral _____
Moderately discouraged _____
Strongly discouraged _____

Not part of a multi-campus district _____

Please describe what district policies have affected your efforts.

13. In your efforts to integrate academic and vocational education so far, have state-level policies or practices encouraged or discouraged your efforts?

Strongly encouraged (with money or other incentives) _____
Moderately encouraged _____
Neutral _____
Moderately discouraged _____
Strongly discouraged _____

Not applicable — have not yet integrated academic and vocational education _____

14. Which of the following state policies or practices have been helpful to your integration efforts, and which have tended to discourage these efforts?

	Encourage	Discourage	N/A
State sponsorship of Applied Academics curricula	___	___	---
State development of other integrated curricula	___	___	---
Workshops/technical assistance about integration	___	___	---
In-service activities for teachers	___	___	---
Pilot projects	___	___	---
Other funding	___	___	---
New equipment for integration effort	___	___	---
Competency-based testing requirements	___	___	---
"Core" curriculum requirements for all students	___	___	---
Competency-based course content or objectives	___	___	---
Site-based management or decentralization of administration	___	___	---
State graduation requirements	___	___	---
Teacher certification requirements	___	___	---
Course approval process	___	___	---
State model curriculum standards for vocational courses	___	___	---
State definition or conception of vocational education (please describe)	___	___	---
Other (please describe)	___	___	---

Not applicable — have not yet integrated academic and vocational education ---

15. Has the state taken any steps to define or encourage the requirement in the Perkins Amendments that federal funds be used "in coherent sequences or sources?"

Yes _____
No _____

If yes, please describe what actions the state has taken .

16. Has the state taken any steps to encourage or promote the teaching of "all aspects of the industry" in local schools?

Yes _____
No _____

If yes, please describe what actions the state has taken .

17. Has the state adopted any other policies or initiatives, other than those mentioned in question 2 - including those related to education in general (like teacher certification, graduation requirements, or model curricula) - to promote the integration of academic and vocational education?

Yes _____
No _____

If yes, please describe.

APPENDIX 1A

STATE COUNCIL ON VOCATIONAL EDUCATION

INTEGRATION OF ACADEMIC AND VOCATIONAL EDUCATION QUESTIONNAIRE

Questions to Local Secondary Administrators

1. What steps to integrate academic and vocational education have you taken in your school during 1991-93 to integrate vocational and academic education?

Remedial education, learning labs, or tutoring in basic skills for vocational students _____
Efforts to incorporate basic skills into vocational classes _____
Efforts to incorporate employability or generic workforce skills into vocational courses _____
Applied Academics curricula - state developed or consortia-developed _____
Applied Academics curricula - state - or consortia-developed but modified locally _____
Applied Academics curricula - locally developed _____
Collaboration between academic and vocational teachers to coordinate course content _____
Collaboration between academic and vocational teachers to develop new curricula _____
Team teaching with academic and vocational teachers _____
Development of Academies or occupationally-oriented schools within schools _____
Development of occupationally-oriented magnet schools or high schools _____
Development of occupational clusters, career paths, career tracks, or occupational "majors" _____
Development of guidance and counseling activities _____
Development of tech-prep or 2+2 programs with local post secondary institutions _____

Other (please describe) _____

When did you begin these changes?

In 1991, with new Perkins requirements _____
Prior to 1991 Year_____ _____

2. How are you using your Perkins funds?

Staff development for teachers _____
Release time for teachers _____
Small class sizes _____
Purchase of curriculum materials, including lab materials _____
Purchase of occupationally-relevant equipment _____
Modify existing curriculum materials _____
Original curriculum development _____
Outside consultants for curriculum development _____
Purchase of occupationally-relevant equipment _____
Development of new and more sophisticated vocational programs (please describe) _____
Purchase of computers, software, or curricula for learning labs or other remedial programs _____
Additional career counselors or guidance activities _____
Support of local curriculum coordinators or developers, responsible for integration _____
Other (please describe) _____

Please include a copy of the portion of your local application for Perkins funds for 1992-93, that describes how your vocational program integrates academic and occupational disciplines.

3. If you are spending Perkins funds for staff development, in-service, or release time for teachers, which teachers are receiving these benefits?

Vocational teachers only _____
Academic teachers only _____
Academic and Vocational teachers _____
Not applicable to my school _____

4. If you have adopted any of the Applied Academics courses, how are they being used? (Check all that apply.)

Required for vocational students _____
Encouraged of vocational students _____
Part of a sequence of academic and vocational courses _____
Electives open to all students _____
Courses used in place of general-track courses (general math, general science, etc.) _____
Remedial courses _____

Not applicable in my school _____

5. If you are using any of the Applied Academics courses, are they:
(Check all that apply.)

Used by teachers as is, without modification? _____
Modified to fit local programs? _____
Taught by vocational instructors? _____
Team-taught by academic and vocational instructors? _____
Used as replacements for general-track courses? _____
Not applicable in my school _____

6. Have academic and vocational instructors in your school worked together to developed your efforts and plans to integrate?

Yes _____
No _____

If yes, in what way? (Kindly attach a separate response.)

7. Are there any courses developed in your school by academic and vocational instructors together?

Yes _____
No _____

If yes, please describe these courses.

Is there any team teaching of integrated courses in your school?

Yes _____
No _____

If yes, please describe the courses that are team taught. (Kindly attach a separate response.)

8. Have you targeted any particular group of students in your efforts to integrate vocational and academic education?

Yes _____
No _____

If yes, what groups of students have you targeted?

Vocational students _____
General-track students _____

All academically deficient students _____
Potential dropouts _____
Handicapped students _____
Limited English-speaking students _____
All students _____
Other (please describe) _____

9. In your efforts at integration so far, what has been the general reaction of the following groups to the integration of academic and vocational education?

	strongly supportive	somewhat supportive	neutral	somewhat opposed	strongly opposed
vocational instructors					
academic instructors					
vocational administrators					
academic administrators					
principals					
state vocational staff					
state academic staff					
vocational students					
other students					
parents					
business community					

10. What are your major objectives for this integration effort?

Improve academic content of vocational classes _____
Improve academic classes in a vocational program _____
Permit vocational students to receive academic credit for vocational coursework _____
Improve students' thinking and problem solving skills _____
Better prepare students for district- or state-level competency tests _____
Increase graduation requirements _____
Meet federal funding requirements _____
Improve career education and choices _____
Improve technical content of vocational classes _____
Increase graduation rates _____
Increase attendance in related post secondary programs _____

11. What plans do you have for any further initiatives to promote the integration of academic and vocational education?

No further plans - we're satisfied with changes already made _____
Will continue to implement the changes described in question 1 _____
Now developing new initiatives _____

Please describe. (Kindly attach a separate response.)

12. In your efforts to integrate academic and vocational education so far, have district-level policies or practices encouraged or discouraged your efforts?

Strongly encouraged (with money or other incentives) _____
Moderately encouraged or supported _____
Neutral _____
Moderately discouraged _____
Strongly discouraged _____

13. In your efforts to integrate academic and vocational education so far, have state-level policies or practices encouraged or discouraged your efforts?

Strongly encouraged (with money or other incentives) _____
Moderately encouraged or supported _____
Neutral _____
Moderately discouraged _____
Strongly discouraged _____

14. Of the following state policies or practices, which have been helpful to your integration efforts, and which have tended to discourage those efforts?

	Encourage	Discourage	N/A
State sponsorship of Applied Academics curricula	___	___	___
State development of other integrated curricula	___	___	___
Workshops/technical assistance about integration	___	___	___
In-service activities for teachers	___	___	___
Pilot projects	___	___	___
Other funding	___	___	___
New equipment for integration effort	___	___	___
Competency-based testing requirements	___	___	___
"Core" curriculum requirements for all students	___	___	___
Competency-based course content or objectives	___	___	___
Site-based management or decentralization of administration	___	___	___
State graduation requirements	___	___	___
Teacher certification requirements	___	___	___
Course approval process	___	___	___
State model curriculum standards for vocational courses	___	___	___
State definition or conception of vocational education (please describe)	___	___	___
Other (please describe)	___	___	___

15. Has the state taken any steps to encourage or promote the teaching of "all aspects of the industry" in local schools?

Yes _____
No _____

If yes, please describe what actions the state has taken.

c:\evalutns\integras\secadmin.doc

APPENDIX 1A

STATE COUNCIL ON VOCATIONAL EDUCATION

INTEGRATION OF ACADEMIC AND VOCATIONAL EDUCATION QUESTIONNAIRE

Questions to Administrators of Post Secondary Programs

1. What steps to integrate vocational and academic education has your institution taken during 1991-93 — after the enactment of the Perkins Amendments?

Supporting general education for vocational students _____
Developing applied academics courses (like Technical Math, Business English, etc.) _____
Incorporating more academic content into vocational courses _____
Developing problem-solving or "thinking skills" curricula _____
Cross-curriculum efforts (like Writing Across the Curriculum) _____
Development of "tandem courses," where students take a coordinated academic and vocational course _____
Development of interdisciplinary courses combining occupational issues and academic disciplines (like History of Technology, Ethics in Business, Society and Technology or The Literature of Work) _____
Supporting remedial/developmental education, learning labs, tutoring, and other initiatives to increase the basic skills of vocational students _____
Developing tech-prep or 2+2 programs with local high schools _____

Other (please describe) _____

Please describe your efforts to integrate academic and vocational education in greater detail. (Kindly attach a separate response.)

When did you begin these changes?

In 1991, with new Perkins requirements _____
Prior to 1991 Year____

2. How are you using your Perkins funds?

Staff development for teachers _____
Release time for teachers _____
To reduce class sizes _____
Purchase of curriculum materials, including lab materials _____

Modify existing curriculum materials _____
Original curriculum development _____
Outside consultants for curriculum development _____
Purchase of occupationally-relevant equipment _____
Development of new and more sophisticated vocational programs (please describe) _____
Purchase of computers, software, or curricula for learning labs or other remedial programs _____
Additional career counselors or guidance activities _____
Support of local curriculum coordinators or developers, responsible for integration _____
Other (please describe) _____

3. If you are spending Perkins funds for staff development, in-service, or release time for teachers, which teachers are receiving these benefits?

Vocational teachers only _____
Academic teachers only _____
Academic and Vocational teachers _____
Not applicable to my school _____

4. In your efforts to integrate academic and vocational education, how are teachers selected for participation?

All vocational instructors must participate _____
Vocational instructors in particular occupational areas must participate (please indicate which areas) _____
Participation by vocational instructors is voluntary _____
All academic teachers must participate _____
All academic teachers in certain subjects must participate (please indicate which subjects) _____
Participation by academic instructors is voluntary _____

5. Have you targeted any particular group of student for your efforts to integrate vocational and academic education?

Yes _____
No _____

If yes, which students?

Students in vocational associated programs _____
Students in vocational certificate programs _____
Students in all vocational courses _____
All students, whether transfer or vocational _____

Vocational students with deficiencies in basic skills _____
All students with deficiencies in basic skills _____
Other (please describe) _____

6. What are your major objectives for this integration effort?

Increase program completion rates _____
Meet federal funding requirements _____
Increase demand for courses _____
Enhance general education for vocational students _____
Improve academic content of vocational programs _____
Improve technical content of vocational programs _____
Better prepare students for employment _____
Develop interdisciplinary courses _____
Enhance students basic skills _____

Other (please describe) _____

7. What indicators or measures would you use to judge the success or failure of this project?

Greater student demand for integrated programs _____
Increased program completion rates _____
Feedback from employers that students have better skills _____
Improved placement in related occupations _____
Less need for remedial/developmental classes _____
Increased student satisfaction _____
Teacher satisfaction that changes improve instruction _____

Other (please specify)

8. In your efforts to integrate academic and vocational education so far, have state-level policies or practices encouraged or discouraged your efforts?

Strongly encouraged (with money or other incentives) _____
Moderately encouraged _____
Neutral _____
Moderately discouraged _____
Strongly discouraged _____

Not applicable — have not yet integrated academic and vocational education

9. Which of the following state policies or practices have been helpful to your integration efforts, and which have tended to discourage these efforts?

	Encourage	Discourage	N/A
State sponsorship of Applied Academics curricula	___	___	___
State development of other integrated curricula	___	___	___
Workshops/technical assistance about integration	___	___	___
In-service activities for teachers	___	___	___
Pilot projects	___	___	___
Other funding	___	___	___
New equipment for integration effort	___	___	___
Competency-based testing requirements	___	___	___
Competency-based course content or objectives	___	___	___
Course approval process	___	___	___
State model curriculum standards for vocational courses	___	___	___
State definition or conception of vocational education (please describe)	___	___	___
Other (please describe)	___	___	___

Not applicable — have not yet integrated academic and vocational education

10. Has the state taken any steps to encourage or promote the teaching of "all aspects of the industry" in local schools?

Yes _____
No _____

If yes, please describe what actions the state has taken. (Kindly attach a separate response.)

evalutns/integras/psecadmn.doc

APPENDIX 2

BIBLIOGRAPHY

Publications of the National Center for Research in Vocational Education University of California, Berkeley:

1. *School/Work: Economic Change and Educational Reform.* Thomas Bailey. December 1992.

2. *Teachers' Roles in the Integration of Vocational and Academic Education.* B. June Schmidt, Curtis R. Finch, Susan L. Faulkner, Margaret S. Isom, Robert C. Magee, Tina Fox. December 1992.

3. *Helping Teachers to Understand Their Roles in Integrating Vocational and Academic Education: A Practitioner's Guide.* B. June Schmidt, Curtis R. Finch, Susan L. Faulkner. December 1992.

4. *Integrating Academic and Vocational Education: Lessons from Eight Early Innovators.* S. Bodilly, K. Ramsey, C. Stasz, R. Eden. December 1992.

5. *Using Professional Development to Facilitate Vocational and Academic Education Integration: A Practitioner's Guide.* Curtis R. Finch, B. June Schmidt, Susan L. Faulkner. November 1992.

6. *Collaboration Efforts Between Vocational and Academic Teachers: Strategies that Facilitate and Hinder the Efforts.* B. J. Schmidt. October 1992.

7. *Helping Vocational and Academic Teachers Collaborate to Improve Students' Reading and Writing Skills; An Over-Time In Service Activity.* B. J. Schmidt, L.A. Beeken. October 1992.

8. *Two Worlds: Vocational and Academic Teachers in Comprehensive High Schools.* Judith Warren Little. September 1992.

9. *A Time to Every Purpose: Integrating Occupational and Academic Education in Community Colleges and Technical Institutes.* W. Norton Grubb and E. Kraskouskas. September 1992.

10. *Annotated Resource List: Integration of Academic and Vocational Education.* Compiled by Technical Assistance for Special Populations Program. August 1992.

11. *Integration of Vocational and Academic Education: Theory and Practice.* J. Phihal, M.A. Johnson, C. Bentley, C. Morgaine, T. Liang. July, 1992.

12. *Assessing the Integration of Academic and Vocational Education: Methods and Questions.* Working paper. C. Stasz. June 1992.

13. *Work on the Margins: The Experience of Vocational Teachers in Comprehensive High Schools.* Judith Warren Little, Susan M. Threatt. June 1992.

14. *An Uncommon Education: Interaction and Innovation.* R. Bech, G. Copa, V. Pease. November 1991.

15. *The Cunning Hand, The Cultured Mind: Models for Integrating Vocational and Academic Education.* W. N. Grubb, G. Davis, J. Lum, J. Plihal, C. Morgaine. July 1991.

16. *Integrating Academic and Vocational Education: Issues in Implementing the Carl Perkins Amendments of 1990.* [Working Paper] W. Norton Grubb. January 1991.

---

17. *Making High Schools Work—Through Integration of Academic and Vocational Education.* Bottoms, Presson, and Johnson. Southern Regional Education Board. Atlanta, GA. 1992.

18. *Improving General and Vocational Education in the High Schools.* Bottoms and Presson. Southern Regional Education Board. Atlanta, GA. 1989.

19. *Vocational Education Journal.* American Vocational Association. Alexandria, VA. Volume 67, No. 8. November/December 1992.

20. *Vocational Education Journal.* Vol. 68; No. 2. February 1993.

21. *From School-To-Work.* Educational Testing Service. Princeton, NJ. 1990.

22. *The Walls Come Down: The Overdue Reunification of Vocational and Academic Education.* Roosenstock. Phi Delta Kappan. February 1991.

23. *Integration Institute Planning Document (Draft).* Somerville High School. Somerville, MA. July 1992.

24. *America's Choice: High Skills or Low Wages?* National Center on Education and the Economy. Rochester, NY. June 1990.

APPENDIX 3

STATE COUNCIL ON VOCATIONAL EDUCATION

LEADERSHIP DIALOGUE
1992 - 1993

Dr. David M. Bartley, President	Holyoke Community College
Dr. Carole A. Cowan, President	Middlesex Community College
Janet Doe, Director	Worcester Technical Institute
Marsha McDonough, Superintendent	Greater Lawrence Voc-Tech School
Gerald Paist, Superintendent	Pathfinder Voc-Tech School
Dr. George Traicoff, President	North Shore Community College

APPENDIX 4

STATE COUNCIL ON VOCATIONAL EDUCATION
INTEGRATION OF ACADEMIC AND VOCATIONAL EDUCATION
QUESTIONNAIRE

Questions to the State Administrator for Secondary Vocational Education Programs

1. Did the state education agency sponsor any initiatives to promote the integration of academic and vocational education prior to 1991-92 (the first year under the Perkins Amendments)?

Yes - supporting the Applied Academics curricula from CORD or AIT	✓
Yes - supporting state-developed integrated curricula	✓
Yes - participation in SREB consortium NOT INVITED	
Yes - supporting vocational Academies (schools within schools)	
Yes - technical assistance for administrators	✓
Yes - workshops for teachers	✓
Yes - release time for teachers	
Yes - pilot projects	✓
Yes - support for tech-prep or 2+2 programs	✓
Yes - other (please describe)	
No	

If yes, in what year did initiatives to promote integration begin? 1984

Please describe the state's initiative in greater detail. (Kindly attach a separate response.)

2. Has the state education agency sponsored any initiatives using Carl Perkins funds to promote the integration of academic and vocational education in 1991-93 — since the passage of the Perkins Amendments?

Yes - Applied Academics curricula from CORD or AIT	✓
Yes - state-developed integrated curricula	✓
Yes - participation in SREB consortium NOT INVITED	
Yes - supporting vocational Academies (schools within schools)	
Yes - technical assistance for administrators	✓
Yes - workshops for teachers	✓
Yes - release time for teachers	
Yes - pilot projects	✓
Yes - support for tech-prep or 2+2 programs	✓
Yes - other (please describe)	
No	

If yes, please describe the state's initiative in greater detail. (Kindly attach a separate response.)

If yes, approximately how much Perkins money was devoted to integration? $180,000

3. If the state has sponsored any of the Applied Academics curricula, does state policy encourage or discourage any particular use of these curricula?

Yes - encourage use for vocational students only _____
Yes - encourage use as part of a coherent sequence ✓
Yes - encourage local adoption ✓
Yes - encourage use to replace general-track courses ✓
No - no restrictions, but encouragement for these purposes ✓

4. If the state has supported any integration pilot projects, please include descriptions of the pilot projects, copies of the RFP, and any other documentation.

Does the state plan to provide follow-on support to successful pilot or demonstration projects?

Yes ✓ From Curriculum Center
No _____

5. Has the state adopted any definition or conception of integration, either in its state plan or in other state policies related to federal or state funding?

Yes ✓
No _____

If yes, please attach definition or conception.

6. Does the state allow Perkins funds to be spent on academic teachers as well as vocational teachers?

Yes - both academic and vocational teachers ✓
No - vocational teachers only _____
* Preference in training must be given to teachers (all subjects) of voc-tech students (federal rule)

7. Has the state taken any steps to encourage or promote the teaching of "all aspects of the industry" in local schools?

Yes ✓
No _____

If yes, please describe what actions the state has taken. (Kindly attach a separate response.)

8. Has the state adopted any other policies or initiatives other than those mentioned in question 2 - including those related to education in general (like teacher certification, graduation requirements, or model curricula) - to promote the integration of academic and vocational education?

Yes ✓ See current RFB
No

If yes, please describe. (Kindly attach a separate response.)

9. Local applications for Perkins funds are supposed to describe how they will provide a vocational program that integrates academic and occupational disciplines (in Section 240). In your review of local applications for 1991-92 or 1992-93 funds, did your state disapprove any local applications because of inadequacies in this section of the local plan?

Yes ✓
No

If yes, how many plans were disapproved or modified? 25

If yes, what were the reasons for disapproval or modification? (Kindly attach a separate response.) LACK OF SPECIFIC PLANS FOR STAFF DEVELOPMENT

10. In your experience, and based on local applications, what practices to integrate academic and vocational education are most common in the state? (Please rank order the following responses, with "1" for most common, "2" for next most common, etc. Leave a blank for practices which are not taking place in your state.)

Remedial education, learning labs, or tutoring in basic skills for vocational students	3
Efforts to incorporate basic skills into vocational classes	1
Efforts to incorporate employability or generic workforce skills into courses	4
Applied Academics curricula - state-developed or consortia-developed	
Applied Academics curricula - state or consortia-developed but modified locally	2
Applied Academics curricula - locally developed	5
Collaboration between academic and vocational teachers to coordinate course content	7
Collaboration between academic and vocational teachers to develop new curricula	8
Team teaching with academic and vocational teachers	
Development of Academies or occupationally-oriented schools within schools	

Development of occupational-oriented magnet schools or high schools	____
Development of occupational clusters, career paths, career tracks, or occupational "majors"	6
Development of guidance and counseling activities	____
Other (please describe)	____

11. In your experience, and based on state plans, how are districts using Perkins funds? (Again, please rank order the following responses, with "1" for most common, "2" for next most common, etc. Leave a blank for practices which are not taking place.)

Staff development for teachers	1
Release time for teachers	3
Small class sizes	____
Purchase of curriculum materials, including lab materials	6
Modify existing curriculum materials	2
Original curriculum development	5
Outside consultants for curriculum development	____
Purchase of occupationally-relevant equipment	____
Development of new and more sophisticated vocational Programs (please describe)	____
Purchase of computers, software, or curricula for learning labs or other remedial programs	4
Additional career counselors or guidance activities	____
Support of local curriculum coordinators or developers, responsible for integration	____
Other (please describe)	____

12. In your judgment, what has been the general reaction of the following groups to the integration of academic and vocational education?

	strongly supportive	somewhat supportive	neutral	somewhat opposed	strongly opposed	generally uninformed
vocational instructors		✓				
academic instructors				✓		
vocational administrators	✓					
academic administrators				✓		
principals						
state vocational staff		✓				
state academic staff						✓
vocational students						
other students						
parents						
business community						

I HAVE NO ADEQUATE MEANS TO MEASURE

13. In the future, is the state currently planning to sponsor any further initiatives to promote the integration of academic and vocational education?

Yes - Applied Academics curricula from CORD or AIT	✓
Yes - state-developed integrated curricula	✓
Yes - local-developed integration curricula	✓
Yes - participation in SREB consortium	
Yes - workshops for teachers locally, state support as appropriate	✓
Yes - release time for teachers	
Yes - pilot projects	✓
Yes - other (please describe)	
No	

If yes, please describe the state's future initiative in greater detail. (Kindly attach a separate response.)

evalutns/integras/statesec.doc

APPENDIX 5

STATE COUNCIL ON VOCATIONAL EDUCATION
INTEGRATION OF ACADEMIC AND VOCATIONAL EDUCATION
QUESTIONNAIRE

Questions to the State Administrator for Post Secondary Vocational Education Programs

1. Applications for Perkins funds are supposed to describe how they will provide a vocational program that integrates academic and occupational disciplines (in Section 240). In your review of applications for 1991-92 or 1992-93 funds, did your state disapprove any local applications because of inadequacies in this section of the local plan?

Yes ____
No X

If yes, how many plans were disapproved or modified? ____

If yes, what were the reasons for disapproval? (Kindly attach a separate response.)

2. In your experience, and based on postsecondary applications, what practices to integrate academic and vocational education are most common in the state? (Please rank order the following responses, with "1" for most common, "2" for next most common, etc. Leave a blank for practices which are not taking place in your state.)

Supporting general education for vocational students	3
Developing applied academics courses (like Technical Math, Business English, etc.)	
Incorporating more academic content into vocational courses	2
Developing problem-solving or "thinking skills" curricula	2
Cross-curriculum efforts (like Writing Across the Curriculum)	2
Development of "tandem courses," where students take a coordinated academic and vocational course	4
Development of interdisciplinary courses combining occupational issues and academic disciplines (like History of Technology, Ethics in Business, Society and Technology or The Literature of Work)	4
Supporting remedial/developmental education, learning labs, tutoring, and other initiatives to increase the basic skills of vocational students	1
Developing 2+2 or tech-prep programs with local high schools	2
Other (please describe)	

3. In your experience, and based on state plans, how are post secondary institutions using Perkins funds? (Again, please rank order the following responses, with "1" for most common, "2" for next most common, etc. Leave a blank for practices which are not taking place in the state.)

Staff development for teachers	3
Release time for teachers	3
Small class sizes	2
Purchase of curriculum materials, including lab materials	2
Modification of existing curriculum materials	2
Development of original curriculum	3
Outside consultants for curriculum development	2
Purchase of occupationally-relevant equipment	
Development of new and more sophisticated vocational programs (please describe)	2
Purchase of computers, software, or curricula for learning labs or other remedial programs	2
Additional career counselors or guidance activities	2
Support of local curriculum coordinators or developers, responsible for integration	2
Other (please describe)	

4. In your judgment, what has been the general reaction of the following groups to the integration of academic and vocational education?

	strongly supportive	somewhat supportive	neutral	somewhat opposed	strongly opposed
vocational instructors		X			
academic instructors		X			
vocational administrators		X			
academic administrators		X			
state vocational staff		X			
state academic staff		X			
vocational students		X			
transfer students		X			
developmental students		X			
parents		X			
business community		X			

5. For the future, is the state currently planning to sponsor any further initiatives to promote the integration of academic and vocational education?

Yes - supporting the Applied Academics curricula from CORD or AIT ✓

Yes - supporting state-developed integrated curricula _____

Yes - participation in SREB consortium _____

Yes - technical assistance for administrators ✓
Yes - workshops for teachers ✓
Yes - release time for teachers ✓
Yes - pilot projects ✓
Yes - support for tech-prep or 2+2 programs ✓
Yes - other (please describe) ____

If yes, please describe the state's initiative in greater detail. (Kindly attach a separate response.)

6. Has the state taken any steps to encourage or promote the teaching of "all aspects of the industry" in post secondary institutions?

Yes ____
No ✓

If yes, please describe what actions the state has taken. (Kindly attach a separate response.)

State is sponsoring a Conference for Postsecondary Integration — with a Best practices booklet to be produced